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ABSTRACT

This report summarizes the success of 115 remedial programs in each sector of New Jersey higher education, and uses outcome standards to categorize the patterns of strength and weakness observed in the data from individual college programs. Among the topics discussed are the following: the design of the assessment process; statewide and sector overviews; and the results of individual program evaluations for each college (n=32) and recommendations based on these findings. The overall conclusion from the assessments is that New Jersey public institutions are meeting the mandates of the New Jersey Board of Education on testing and enrolling full-time students, but can improve with part-time students. The report, however, reveals three chronic areas of concern for several institutions: (1) inadequate reporting; (2) the practice of granting graduation credits for some remedial courses; and (3) the practice of some institutions of employing placement procedures and/or cutting scores which are below the minimum suggested by the Basic Skills Council. Appendices provide reporting guidelines, the standards used for evaluating remedial programs, and the background of the consultant's report on graduation credit for remedial/developmental courses. (GLR)

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Report to the Board of Higher Education on the

EFFECTIVENESS OF REMEDIAL PROGRAMS IN NEW JERSEY PUBLIC COLLEGES & UNIVERSITIES
FALL 1987 - SPRING 1989

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November 16, 1991

Dr. Edward Goldberg
Chancellor of Higher Education
State of New Jersey
20 West State Street
Trenton, New Jersey 08625

Dear Chancellor Goldberg:

We are pleased to present to you and to the members of the Board of Higher Education this report, which presents the most thorough analysis of remedial programs the Council has ever prepared. To our knowledge, no other system of higher education has completed such a detailed peer review of academic programs.

All of us in New Jersey's higher education community take pride in providing wide access to college for students from diverse backgrounds, many of whom enter with deficiencies in reading, writing, and mathematics. Without programs to ensure that these students are provided with the academic skills they need to fulfill their aspirations, access to college can be a hollow accomplishment.

This report testifies to the efforts of the public colleges to comply with Board resolutions governing the testing and placement of entering students. It also assesses the extent to which remedial programs at each college achieve the standards we have collectively established for measuring success. You will find hard data on the numbers of students who are placed in remedial programs, how many complete them, and how they do in their subsequent college courses. You will also find honest and reasoned judgments based on those data.

While most readers may restrict their scrutiny to the aggregate information we present at the beginning of the report, we would like to emphasize that the heart of the matter, the primary reason for the report's existence, lies in the analyses of particular developmental programs at each college.

We thank the colleges for participating in the process of setting the standards and reporting the data which form the bases for our conclusions. We especially thank the Council's Assessment Advisory Committee and its chair, Walter Cmielewski, for their tireless efforts and fair-minded evaluations. We applaud the effective leadership of Dr. Anthony Lutkus, BSAP Director, and the work of his staff, especially Dr. Dennis Levy, whose dedication to this three-year effort we cannot adequately acknowledge.

Sincerely,

Robert E. Lynch Al Porter

Robert E. Lynch, Chair
Basic Skills Council, 1990-91

Albert H. Porter, Chair
Basic Skills Council, 1991-92

c: Members, Board of Higher Education

ACKNOWLEDGMENT

Higher education has long relied on the academic peer review process as a means to assess the status of programs. The collegiate accreditation process, in particular, has been based primarily on the qualitative judgments of experienced reviewers. This report takes the review tradition a step further in comparing an extensive collection of long-term statistical outcomes against agreed upon numerical standards of program performance. It preserves the best of the academic peer review process, however, by making formulaic counts of "standards met or unmet" secondary to the consensus judgment of an experienced committee representative of the various sectors of New Jersey public higher education.

The Assessment Advisory Committee devoted hundreds of hours of volunteer labor to the analysis of the outcomes statistics and to debates on the "meaning behind the numbers" for each of 115 remedial programs before reaching consensus judgments on categories. No more than two to three colleges were reviewed in the each of the monthly committee meetings. Some programs were reviewed as many as three times before text was finalized. In every case the institutional "profiles" were shared with the colleges on a pre-publication basis. Institutional input with regard to verification and interpretation of data was always considered by the committee.

On behalf of the Basic Skills Council and the Department of Higher Education, I publicly thank the committee for the nearly two years of meticulous and objective work that went into the preparation of the reviews. In particular, the chairperson of the committee, Walter Cmielewski, should be commended for his tireless work in keeping the committee focused and "on track" through the many months of preparation. Further, we all express our appreciation for the assiduous work of Dr. Dennis Levy, the staff member who not only maintained the database with extraordinary accuracy, served as the "institutional memory" of the group in regard to policies, standards, guidelines and procedures, and contributed many invaluable insights of his own to the group's discussions. Although Dr. Levy was promoted to a different division within the Department of Higher Education before completion of the report, his efforts provided the basic core of information that allowed the committee to complete its work.

Anthony D. Lutkus, Director
Basic Skills Assessment Program
November 1991

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EXECUTIVE SUMMARY

Background

This report to the New Jersey Board of Higher Education judges the effectiveness of each of over one hundred remedial programs at the state's public colleges and universities. Both the colleges' administrative performance and students' academic outcomes were assessed for the four-semester period between Fall 1987 and Spring 1989. Review of collegiate remedial programs is required by resolution of the Board of Higher Education (March 1977) and results from the fact that large proportions (typically a third in reading or writing, nearly half in computation, and up to sixty percent in algebra) of entering students are identified as lacking proficiency for college work based on their scores on the New Jersey College Basic Skills Placement Test (NJCBSPT) and other data. The Board charged the New Jersey College Basic Skills Council, a group of faculty and administrators drawn from all sectors of higher education, with developing the review. The Council's Assessment Advisory Committee has designed, refined and implemented a four-semester, longitudinal review process. Program outcomes in a common format are collected and compared to quantitative standards. Then judgments of effectiveness are rendered by consensus of the committee. The assessment design is the result of an evolutionary committee process with input from dozens of college personnel and the Basic Skills Office of the Department of Higher Education.

Purpose

The remedial program review process has been completed for two interrelated purposes:

- To provide the Board of Higher Education and the public with judgments on the overall effectiveness of public college remedial programs so that appropriate actions can be taken.
- To provide the institutions with tools for their own self-analysis and improvement: detailed analyses of the patterns among their outcome indicators; delineation of the extent to which the quantitative standards were met; an accounting both of program strengths and "Areas of Concern"; and suggestions for internal research.

Assessment Design: High Standards and "Nested" Analyses

The extensive data collected on a series of numerical indicators for three four-semester cohorts (1985-87, 1986-88, 1987-89) for each college program were compared by committee members against the Basic Skills Council's Standards for Review of Remedial Programs (adopted by BHE in April, 1990). Each standard resulted from a year-long process of due notice, public hearings, and discussion among the higher education community.

Within each skill area (Reading, Writing, Computation and Elementary Algebra) the review presents a comparison, using multiple indicators, of three groups: students who did not need remediation; students who needed and completed remediation; and, students who needed but did not complete remediation. The individual college reviews stress the comparison of the first two groups while the system-wide overview treats all three groups.

The committee performed its review of each program with the realization that an accurate analysis depends upon understanding that the quantitative indicators are "nested" within a series. For example, colleges must test and appropriately "place" nearly all full and part-time students before subsequent outcome indicators, such as retention rates and grade point averages, can be meaningful. Thus the level of efficiency in "policy administration" influences subsequent outcomes. Similarly, placement criteria must meet minimum standards. If a college were to exempt too many students from remediation via questionable placement procedures, the outcome data for the resulting small cohort might not be representative of the program at its appropriate size. Further, to judge the adequacy of the percentage of a student cohort that reaches placement minimums upon retesting, the college must have submitted data on not just a few completers but must have met the standard of 95% being retested. Thus apparently "good" outcomes measures, preceded by inadequate administrative compliance, can result in a "false" positive pattern while "mixed" student outcomes that follow thorough administrative procedures may belie a program that is indeed effective for many students.

The committee used both qualitative information (program narratives, institutional self-analyses, etc.) and the multiple quantitative indicators (each one assessed according to the standard set) to arrive at its judgments. While an individual standard may not have been difficult to attain, few programs were successful in meeting all of the standards.

The Findings

Institution-wide Administration

With regard to policy administration--institution-wide procedures such as testing both full- and part-time students, timely enrollment of those students identified for remediation, and successfully retesting a significant proportion of the cohort--the committee judged that

> **Five institutions were rated as strong in policy administration. These included Raritan Valley, Stockton, Sussex, Trenton and William Paterson.**
>
> **Twelve institutions were rated as weak in policy administration. These included Atlantic, Brookdale, Camden, Montclair, Ocean, Passaic Ramapo, Rutgers-Newark, Rutgers-New Brunswick, Salem, Union and Warren.**

Individual Programs

The bulk of this report consists of individual college program profiles that contain the committee's evaluation and list of areas of concern for each institution.

> **Twelve programs (10%) were judged to have strong patterns of student outcomes coupled with adequate to strong policy administration. These programs were: Reading - Cumberland, Gloucester, Glassboro and Kean; Writing - Cumberland and Mercer; Computation - Burlington and Cumberland; Elementary Algebra - Ramapo, Raritan, Sussex and William Paterson.**
>
> **Ninety-three of 115 college remedial programs (81%) presented a mixed picture, meaning that the majority of standards were met. Patterns varied within individual programs.**

Ten programs (9%) were judged to have weak patterns of student outcomes relative to the standards. These programs were judged to have problems significant enough to require immediate attention by the Department of Higher Education. These programs were: Reading - Burlington; Writing - Jersey City, Montclair, Ocean and Rutgers-Newark; Computation - Montclair and Passaic; Elementary Algebra - Essex, Rutgers-Newark and Rutgers-New Brunswick.

Program categorizations in this report are based on data from three longitudinal cohorts of students ending with 1987-1989. Categorizations may change when more recent data are reviewed as noted in the recommendations.

Statewide Overview

Previous reports in this series have drawn the conclusion that based on multiple indicators of effectiveness, the public higher education system in general is providing effective remedial/developmental education services to students identified for remediation. For students who completed these non-credit programs during the 1987-1989 period, this conclusion remains valid. In retention rates relative to non-remedial students, in successful re-taking of the placement test and in terms of passing the subsequent college-level courses, the state's remedial/developmental programs appear, on average, to be successful. The following is an overview of the public college "system," aggregated across colleges by skill area.

Reading. Of the students tested and enrolled in the Fall 1987 cohort 8,768 of the full-time (44%) and 3,011 (44%)[*] of the part-time students were identified for reading remediation. Of these, 93% of the full-timers were enrolled in remediation within two semesters and 70% of the part-timers were enrolled within four semesters. Only 3% of the full time (and 8% of the part-time) students were still present in college in the fourth semester without having enrolled in required remediation. Seventy-two percent (5,894) of the full-time (and 65% of part-time) students completed reading remediation within four semesters. Upon retesting, 87% of the students for whom data were reported reached their college's minimum standard or fell within one standard error of measurement of it.

In the fourth semester 68% (3,922) of students who completed remediation were retained in college compared with 60% of non-remedial students. For students who did not complete their reading remedial work, the retention rate (22%) was only a third that of students who completed remediation. When students who completed reading remediation were followed-up in subsequent, college-level courses, an average of 85% passed the courses compared to 89% of non-remedial students in the same courses. In terms of weighted cumulative Grade Point Averages at the end of the fourth semester, the completers of remediation scored within .33 of a grade point (2.32 vs. 2.66) of non-remedial students. Students not completing remediation averaged 1.96. In the fourth semester the Successful Survivor Rate (SSR) for non-remedial students was 57%; for completers of remediation, 52%; and, for non completers, only 15%.

Writing. For the Fall 1987 cohort, 8,804 full-time (32%)[*] and 3,201 part-time students (40%) were identified for remediation in writing. Of these, 95% of the full-time students were enrolled within two semesters and 71% of the part-time students were enrolled within four semesters. Two percent of the full-time, and six percent of the part-time students were present in the fourth semester without having enrolled in needed writing remediation. The writing courses were successfully completed by 74% of the full-timers who enrolled and 65% of the part-timers within four semesters. Eighty-six percent of the students who were retested reached their college's minimum or fell within one standard error of measurement of it.

---

[*] Percentages of students needing remediation in the four skill areas are calculated on base n's given by the institutions. The bases vary slightly by skill area since some colleges combine Reading with Writing or Computation with Algebra.

In the fourth semester 66% of the students who completed remediation were retained in college compared with 71% of non-remedial students. For students who did not complete needed remedial writing the retention rate was only 23% (about a third that of the remedial completers). In subsequent college-level English Composition courses, 84% of the completers passed compared with 89% of the non-remedial students in the same courses. In terms of weighted cumulative Grade Point Averages at the end of the fourth semester, the completers of remediation scored within .33 of a grade point (2.27 vs 2.60) of non-remedial students. Students not completing remediation averaged 1.69, far below the 2.0 or "C" needed for a degree. In the fourth semester the Successful Survival Rate (SSR) for non-remedial students was 62%; for completers of remediation, 48%; and, for non-completers, only 10%.

Computation. Of the students enrolled in the Fall 1987 cohort, 8,697 (49%) of the full-time, and 4,106 (57%)* of the part-time groups were identified for remediation in computation skills. These data exclude Rutgers University, which does not have a computation remediation program. Of these, 89% of the full-timers were enrolled within two semesters and 64% of the part-timers were enrolled within four semesters in needed remedial courses. Four percent of the full-time and eight percent of the part-time students were present in the fourth semester without having enrolled in needed computation courses. Remedial computation courses were completed by 68% of the full-time students who enrolled and by 67% of the part-timers within four semesters. Of the 5,216 students who were retested, 95% met their college's minimum or fell within one standard error of measurement of it.

In the fourth semester 65% of the students who completed remediation were retained in college compared to 66% of non-remedial students. In contrast, only 28% of students who did not complete computation work were retained in the fourth semester. In subsequent college level courses requiring computation skills, 77% of the computation completers passed compared with 83% of the non-remedial students in the same courses. In terms of weighted cumulative Grade Point Averages at the end of the fourth semester, completers scored within .30 of a grade point (2.31 vs. 2.61) of non-remedial students. Those not completing remediation averaged 1.96. In the fourth semester the SSR for non-remedial students was 56%; for completers of remediation, 48%: and, for non-completers, only 17%.

Elementary Algebra. In Fall 1987, 10,928 (42%)* of the full-time students and 4,851 (64%) of the part-time students were identified by the colleges for remediation in elementary algebra. The percentage identified for Algebra remediation by the institutions is lower than the 60% identified by the NJCBSPT results in this Council's annual report on testing. The difference is rooted in the policy in effect in many colleges in 1987 of exempting from algebra remediation students who elected curricula or majors which did not require mathematics. This practice was changed by Board of Higher Education resolution in 1990 --

---

*Percentages of students needing remediation in the four skill areas are calculated on base n's given by the institutions. The bases vary slightly by skill area since some colleges combine Reading with Writing or Computation with Algebra.

the new, "no exceptions" policy to be in effect by Fall 1992. Of those identified for remediation, 65% of the full-time and 39% of the part-time students were enrolled within four semesters. Algebra enrollment percentages are lower than those in other skill areas because many students must first complete computation courses and either through attrition or delay do not enroll in algebra by the fourth semester. Ten percent of full-time and 16% of part time students were present in the fourth semester without having enrolled in needed algebra remediation. Algebra courses were successfully completed by 63% of full-time students who enrolled and 65% of part-time students within four semesters. Of the 3,618 students for whom retest data were reported, 95% met their colleges' minimum standard or fell within one standard error of measurement of it.

In the fourth semester 77% of the students who completed algebra were retained in college compared with 76% of non-remedial students. For students who did not complete needed remedial algebra the retention rate was 42%. In subsequent college-level mathematics courses, 81% of the completers passed compared with 83% of the non-remedial students in the same courses. In terms of weighted Grade Point Averages in the fourth semester, the completers scored within .15 of a grade point of the non-remedial students (2.49 vs. 2.64). However, students who did not complete needed algebra remediation also attained averages above a "C" (2.24). In the fourth semester the SSR of non-remedial students was 64% compared with 63% for remediated students. The SSR for students not completing algebra remediation (30%) was less than half that of the completers.

Longstanding Areas of Concern

The committee's review of three sets of data and narrative reports from the colleges brought into focus three chronic areas of concern for several institutions. These include:

> *Inadequate Reporting:*
>
> Both Atlantic Community College and Montclair State College have long histories of missing or inadequate basic skills reports (see explanations in institutional profiles).
>
> *Granting Degree Credit for Remedial Courses*:
>
> Several institutions continue to grant graduation credits for some of their remedial courses. These institutions were Atlantic, Cumberland, and Passaic County Colleges, as well as Jersey City and Montclair State Colleges. These practices are in opposition to long standing Board of Higher Education resolutions.
>
> *Placement Criteria That Do Not Meet Minimum Standards*:
>
> Several institutions employed placement procedures and/or cut scores which were below the minima suggested by the Basic Skills Council. These were: *in Writing* - Jersey City State, Montclair State and Ocean County Colleges; in *Computation* - Atlantic and Salem County Colleges, as well as Montclair State College; and *in*

Elementary Algebra - Montclair State and Union County Colleges.

Recommendations

This document is the fourth report to the Board of Higher Education on the effectiveness of the state's public college remedial programs. While each of the previous reports commented on individual programs, this is the first time that the Council's Assessment Advisory Committee reviewed three, successive (1985-87, 1986-88, 1987-89) two-year cohorts for each program and compared the outcomes to quantitative standards. Consequently the committee is confident both in its interpretation of the statistical outcomes and in the validity of its summative judgments of programs. The committee therefore makes the following recommendations:

- Programs judged to be "weak" in patterns of student outcomes measures (see pages 8 and 9) need immediate attention. The Assessment Committee's extensive review leads it to conclude that 1) analysis of local campus processes is one factor needed to improve weak performance; and, 2) responsibility for an unsuccessful program lies with the institution as a whole, not just the remedial program in question. The Basic Skills Council therefore suggests that follow-up procedures be implemented by the Department of Higher Education (DHE) for the ten "weak" programs. Such procedures could include examination of their most recent outcomes (i.e., the 1988-90 and 1989-91 cohorts), review of campus processes/procedures, site visits, and recommendations for improvements.

- Upon completion of the follow-up, programs still considered in the "weak" category after review of more recent results should then submit improvement plans to the Department of Higher Education. Improvement of weak remedial programs should be a specific point of discussion between the institution and the Board of Higher Education Budget Committee during its hearings for annual funding requests. Special attention should be paid by reviewers in the first year to the adequacy of the improvement plan, and in the second year to evidence of improvement in terms of meeting the Board's Standards for Evaluating Remedial Program Effectiveness.

- For future assessments of basic skills programs not currently in the "weak" category, the Department should consider reducing annual reporting requirements by initiating a new periodic review process. Such reviews would replace the current format of assessing all programs in one report. Data will continue to be required annually, but complete written reports could be scheduled to coincide with individual institutions' Middle States visits.

- All institutions have some "Areas of Concern" delineated in their respective program profiles. The Chancellor of Higher Education should recommend that college presidents respond and address the issues at their respective campuses.

- At a few institutions, "Areas of Concern" were noted as long-standing and continuing problems of compliance with Board of Higher Education policies (see page v). The Council recommends that these be addressed by the Chancellor and the Department of Higher Education.

- Each institution should be expected to include its remedial programs in the "maintain/enhance" categories of the Institutional Comprehensive Analysis required by the Board of Higher Education. Discussion of the outcomes and needs of their remedial/developmental education services should be included in institutional strategic planning documents that are submitted to trustee boards and to the Board of Higher Education. Evidence should be provided that expenditures for remedial programs are at least proportional to those of other academic programs. Where funding allocation formulae exist, such as in the county college sector, evidence should be provided to indicate whether actual expenditures on remedial programs are in line with the allocation formula.

INTRODUCTION

Purpose

Remedial or developmental education programs are required at public colleges and universities by the Board of Higher Education. Statewide placement testing of entering students with the New Jersey College Basic Skills Placement Test (NJCBSPT) has consistently revealed that significant proportions (37% in verbal skills, 43% in computation and 58% in elementary algebra) lacked the proficiencies needed to begin college courses that have freshman-level expectations in reading, writing or mathematics. Consequently, remedial programs consume significant proportions of some institutions' first year instructional resources. However, this instructional expenditure, if effectively allocated, is a wise investment because it not only serves to ensure a more homogeneous level of skills for students entering first-level college courses, but also significantly improves student retention. The purpose of this report, the fourth such four-semester analysis by the Basic Skills Council, is to evaluate the effectiveness of the 115 remedial programs at the state's public institutions of higher education.

Background

The evaluation of each program consisted of the following processes: gathering and examining data supplied by the colleges on testing, identification, placement and outcomes of students; comparing the outcomes with the numeric standards for program review set by the Board of Higher Education (April, 1990); on each program, conducting an extended committee review, reaching consensus on the meaning of the interrelated statistical indicators and providing a summative assessment for the program; and finally, providing a pre-publication opportunity for the college to correct any factual errors.

Program assessments are based primarily on data for full-time students who entered the colleges in the fall of 1987 and were tracked through the spring of 1989. As in previous reports in this series, data for both the efficacy of the institution's policy administration (i.e., testing, placement criteria, enrollment, extent of retesting) and for student outcomes are presented. Three features make this report different from previous iterations: outcomes were judged against Board-approved standards promulgated within the higher education community; data on retest results were required, not optional, from 1987 onward; and three full cohorts of four-semester data (1985-87, 1986-88, 1987-89) were examined by the review committee, which then assigned judgments of strong, mixed or weak outcome patterns to the program being reviewed.

Diversity and Accountability

Each of the thirty-two institutions whose programs are evaluated has a distinct mission and a student body with a wide range of basic skills preparation. By using multiple indicators to examine carefully each college program, the Basic Skills Council recognizes that diversity of mission and program. It seeks to strengthen individual programs through a peer review process of both lauding strengths and citing areas of concern that surfaced in the Assessment Committee's review.

> *The Council hopes to hold institutions accountable and to promote improvement.*

At the same time, the Council recognizes demands for accountability. The percentage of students in need of remediation has not diminished significantly since the start of basic skills testing in 1978. The magnitude of the effort by the colleges and the investment by the state in remedial education require that each of the programs be publicly accountable for outcomes. This report attempts the complex task of making fair and accurate evaluations of each college's remedial programs. By doing so through a collegial, committee review process, the Council hopes to fulfill the difficult mission of both holding institutions accountable for the effectiveness of their programs and, at the same time, advocating the improvement of remedial education in the state in an era of fiscal constraint.

ASSESSMENT DESIGN

Evaluating educational programs is always a daunting task. Control mechanisms common to experimental sciences (such as random assignment of subjects, true control groups or complete follow-up of subjects) are not usually available in evaluation of ongoing programs. The Basic Skills Council's goal of evaluating remedial programs in a meaningful manner depends upon formulation of a common set of multiple outcome indicators and definitions which yield useful data, yet permit recognition of institutional differences and preserve institutional autonomy.

The Assessment Advisory Committee

The Basic Skills Council created the Assessment Advisory Committee to design and conduct the review of the effectiveness of public college remedial programs. The committee, composed of program administrators and faculty, institutional researchers and other administrators representing each sector of public higher education, refines the assessment design each year.

Institutional Reporting

An annual report on remedial program effectiveness, including both tabular data and descriptive text, is required of each college. Institutional reports to the Basic Skills Council are prepared according to detailed "Guidelines for Preparation of Institutional Reports on Remedial Program Effectiveness" which are issued each spring (see Appendix A). The guidelines provide for the colleges definitions of the data elements to be reported for the specific cohort of students that were required to be tested and entered in the Fall semester. The Guidelines ask colleges to report and analyze data separately for each of four "basic skill" areas: reading, writing, computation and elementary algebra.

In addition, colleges are required to complete an "Annual Basic Skills Questionnaire." This instrument examines institutional policies and the efficiency of the testing, identification and enrollment of skills-deficient students in remedial courses, primarily within the first academic year.

In addition to the group statistics, colleges are also requested to submit detailed narrative accounts of the following: history of the program, placement policies and procedures, remedial course descriptions, support services, staffing patterns, college policies, problems and difficulties, and an institutional self-analysis of student outcomes results. This additional information provides a valuable context for interpreting the statistics and for resolving discrepancies--for arriving at the meaning behind the numbers.

Nature of the Cohort Studied

The primary group analyzed for this report is the "Fall 1987" entering cohort of full-time students. Students who began either in the summer or fall semesters of 1987 were followed through the spring of 1989. The cohort definition follows the Department of Higher Education's definition of students required to be tested with the NJCBSPT. Degree-seeking students, part-timers who register for a course that would result in the accumulation of 12 or more credits, regular, special and Educational Opportunity Fund (EOF) admits, and transfer students who have not received credit for freshman composition and mathematics are the primary groups who must be tested. The colleges may require others. However, all ESL/bilingual students, and students with documented learning disabilities are excluded from the cohort to be analyzed. Because of the exemption of part-time and ESL students from the follow-up, the basic skills programs in some institutions may serve a sizable population of students whose data are not reviewed here.

> *Programs, not a faculty member's course sections, are the units of analysis.*

Programs as Units of Analysis

The assessment process was designed so that programs, not a faculty member's course sections or individual students, are the units to be analyzed. However, programs must function within an institutional climate and through college-wide policies and procedures on testing and enrollment that are usually centrally controlled. A basic dilemma, therefore, is whether each program's functioning is adequately reflected in its reported data. Impressions of both false positives and negatives can be created either by inaccurate or omitted data or by inadequacies in central administration that are beyond the control of the instructional level personnel. Safeguards against such misreadings have been built into the assessment process by using multiple statistical indicators simultaneously, viewing three cohorts of data (six years) longitudinally, recognizing the "nested" nature of the statistics, and finally, allowing committee judgment, and not a summing of scores, to be the ultimate source of a program's rating.

Use of Multiple Indicators

Because no single measure could provide sufficient information on the effectiveness of remedial programs, it was decided to identify multiple outcome measures which would provide evidence in context, even if it could only be interpreted cumulatively. If multiple measures for a program or programs form a consistent pattern, then adequate conclusions on the effectiveness of remediation at the institution can be drawn.

The strategy, then, was to gather data on multiple indicators which relate to aspects that are relevant to a successful program. For example, regarding those students placed by a college in a particular remedial course sequence, the assessment is designed to produce answers to the following kinds of questions: What percentage completes the remedial program? Of students completing, what percentage actually attains the college-level placement criterion on the retest? What percentage of these students passes their first (subsequent) college-level course that requires the remediated skill? What percentage is retained in college for four semesters? What percentage of retained students has a "C" or better average?

> *A profile based on multiple indicators was created for each program.*

Judging the effectiveness of a program on only one or two of these indicators would not produce an accurate assessment of the college program. A pattern analysis of individual programs, much like a "personality profile," is required. Within such an analysis, especially if based solely on statistical indicators, a potential exists both for unwarranted criticism and for unfounded praise. For example, do high remedial completion rates indicate, among other possibilities, effective instruction or lax grading standards? Only integrated analyses of retest competence and subsequent college-level course performance can help answer such questions.

The "Nested" Nature of Outcome Indicators

Early in its review process the Assessment Committee confronted the realization that "good" student outcomes data which followed from a program which under-tested, underidentified or underenrolled significant numbers of students could result in a "false positive" review. Similarly, retesting only a few of the remediated students or tracking only a small fraction of the program's cohort into subsequent college-level courses also may cloud interpretation of student outcome statistics.

Outcome Indicators: An Overview

The principal indicators to ascertain remedial program effectiveness can be divided for convenience into four discrete sets that roughly parallel the chronology of the remedial process for students:

- *policy administration* (i.e., students tested, two-semester remedial enrollments, students present fourth semester and not yet enrolled in needed remediation, percentage of students retested);
- *placement criteria*
- *remedial course outcomes* (i.e., completion rates, retest results); and
- *subsequent academic performance* (i.e., passing rates in first or subsequent college-level course in skill area, percents of students with cumulative GPA's of "C" or above, retention and successful survival rates).

In addition to the indicators listed above, the committee reviewed other valuable data (e.g., remedial course enrollments within four semesters, credits attempted and earned for the fourth semester alone and also cumulatively, mean GPA's for the fourth semester alone and cumulatively) which, although not expressly treated in each of the remedial program profiles, nonetheless aided in interpreting the results and in recognizing patterns.

Each of the sets of indicators is described below.

Policy Administration:

- *Students tested.* The New Jersey College Basic Skills Placement Test (NJCBSPT) is administered to students after they are admitted to public college but before they register for courses. Colleges use the test scores for placement purposes, not for admissions decisions. The indicator in this case is the percentage of students tested (of those required to be tested). The Board of Higher Education requires that at least 90% of the "required" students be tested.

- *Remedial enrollments within two semesters.* To serve students well, colleges must ensure that those who are identified as needing remediation enroll promptly in appropriate courses. Institutions provide data on the number and percentage of students who were identified as needing remediation and were enrolled in the appropriate remedial course(s) within their first two semesters. The Board requires that at least 90% of the full-time students who were identified as needing remediation begin the needed remediation within two semesters.

The Assessment Committee has chosen not to apply this two-semester enrollment standard in the case of elementary algebra. Algebra students at most colleges must first satisfy a computation requirement; thus, the two mathematics skill areas can be linked in a way that postpones enrollment in algebra remediation. Holding colleges to the two-semester requirement in algebra would seem unreasonable if large numbers of the students must first take one or more computation courses. The committee is currently studying the extent to which such "linkages" exist.

- *Students present in the fourth semester who had not yet begun remediation.* One telling indication of the degree to which timely help is given to students who need the help is the number of identified, full-time students in a skill area who were present in the fourth semester without having enrolled in appropriate remedial courses. These would be skills-deficient students on campus who had yet to begin the necessary remedial course work four semesters after admission. An obvious goal would be to have no such students.

- *Percentage of students retested.* Colleges are required to retest students upon completion of remediation, using the NJCBSPT or an equated substitute that has been approved by the Basic Skills Council. The Board of Higher Education requires that 95% of successful completers be retested. The retest score, however, is not a required "gatekeeper" to exit remediation at the colleges.

Placement Criteria:

The colleges identify students in need of remediation in each skill area. Cut-scores on the NJCBSPT and the mix of criteria that can be used for these decisions are not dictated by Board mandate; rather, these choices are left to the individual colleges to make, in keeping with the local missions and goals of the respective institutions and the nature of the populations of students to be served. However, no institution should set placement criteria below the "floor" levels set by the Council in its annual report on New Jersey College Basic Skills Placement Test results.

Based upon its understanding of the content and difficulty level of the NJCBSPT, and upon recommendations of its two test-development advisory committees, the Council has published general guidelines to assist in interpreting scores on each of its subtests ("Interpreting Scores on the New Jersey College Basic Skills Placement Test," "Interpreting Mathematics Scores on the New Jersey College Basic Skills Placement Test," "Scoring the Essay"). Over the years, the Council has suggested minimum proficiency standards on its test. As part of the "effectiveness" review, the Assessment Committee comments on the appropriateness of NJCBSPT placement criteria that were used, in keeping with the recommendations of the Council.

If colleges use placement criteria that are set too low, some skills-deficient students will be placed erroneously into college-level courses. Such placement is likely to lead either to a high dropout/failure rate or to a subsequent lowering of college academic standards, as instructors reduce their requirements to meet the lower skills level of the students they encounter. Conversely, placement criteria that are set too high will result in too many students being placed into remedial courses which they may not need. Many New Jersey public colleges now have two or more levels of remedial courses in a skill area and use the NJCBSPT not only to establish minima, but also for placement into these remedial levels.

Remedial Program Outcomes:

Since 1982, the Basic Skills Council has prepared reports for the Board of Higher Education to document the success of remedial programs within the colleges. These reports urge the Board to continue its support of remedial efforts in the colleges. Because retest data submitted by the colleges for previous reports were so sporadic and varied, they did not present convincing evidence for program effectiveness. Therefore, the Council recommended that a standardized test, such as NJCBSPT, be used on a statewide basis. After consultation with the colleges, the resolution requiring retesting was passed by the Board of Higher Education in February, 1987. That resolution reaffirmed the responsibility of the colleges to provide effective remedial programs for students identified as deficient in basic skills. It emphasized the importance of multiple criteria in evaluating students and called upon the colleges to retest students, as they move from remedial to regular courses, with the NJCBSPT (or an equated substitute test). Specifically, it called upon the colleges to report what percentage of its remedial students achieve the NJCBSPT score which the college itself has determined as appropriate for placement in the regular, college-level course.

The 1987-89 reporting guidelines called for the submission of data on retesting (see Appendix A). Institutions were to report the test(s) used, the minimum score needed to determine proficiency, the pre-placement and retest means and standard deviations, as well as the percentage of students who completed the remedial program and reached the college's minimum score on the retest, and the distributions of all scores. Not all colleges provided such data on their students prior to the 1987 cohort report. (The first group of entering students under the mandate is the present, Fall '87 cohort.)

- *Remedial program completion rate.* Colleges report on the completion rates (both through course work and "by other means") for each skill area. In general, a low completion rate indicates a problem which should be investigated. It may be a warning about the quality of instruction, or it may mean that the level of the course(s) taught is too high for a large majority of the students. It may also signal the need to reexamine placement criteria and procedures (i.e., some students may have been placed at a level higher than they could handle). Analysis of other indicators is needed to resolve such issues. Colleges should aim for the highest possible completion rates in remedial programs consistent with students attaining proficiency in the skill area being addressed.

- *Retesting.* Recognizing the problems inherent in interpreting pre- and post-test data, the Assessment Committee has de-emphasized the use of "gain" scores. Instead, the focus has been on the percentage of those completing remediation who reach the minimum score level on the retest--that is, the percentage of "passing" students who attain the scaled/standardized score (or algorithm of scores) on the NJCBSPT which was used, among other criteria, to differentiate remedial from non-remedial students at the time of the original placement testing. Thus, the central question being asked is the same as that asked during the original placement testing: do the students have the skills to succeed in college-level courses? Since it makes more sense to think of these data as the aggregate results of a second sitting of a placement test, the Basic Skills Council prefers the term "retesting."

Subsequent Academic Performance:

Our approach to the evaluation of follow-up academic performance uses multiple measures to compare each of three full-time student groups within the colleges. Students who need and complete remediation are, on the one hand, compared with students who did not need remediation. On the other hand, remediation-completed students are compared with students who did not complete needed remediation. Non-completers include both those who did not enroll and those who did not complete remediation. This is a "relative" form of comparison in that it judges the performance of a college's remedial program relative to the college's own standard--its non-remedial student outcomes. The individual college profiles stress the comparison between the first two groups of students whereas the system-wide overview treats comparisons among all three groups.

- *Passing rates for first (subsequent) college-level course in skill area.* Colleges reported the passing rates for both remediation-completed and non-remedial students who took first college-level courses in English composition and mathematics, as well as reading-based college level courses, from Fall 1987 through Spring 1989. Colleges were asked to accumulate data over several courses and sections.

- *Grade Point Averages (GPA's).* Another indicator used to assess remedial programs is GPA. The use of GPA as a measure of performance is based upon the notion that students who have completed needed remediation should be able to earn satisfactory grades in college-level courses in the semesters following remediation. The colleges were asked to report GPA's for each of the three groups being studied, both cumulatively (i.e., for first through fourth semesters) and for the Spring 1989 term alone. For the students who were present in the spring semester, the colleges also reported the percentage of students in each group whose GPA's were greater than or equal to 2.0 (the equivalent of a "C" average, which is generally the minimum average required for graduation from college).

- *Mean credits attempted and earned.* The mean numbers of credits attempted and earned for each of the three study groups were reported by the colleges for both Spring 1989 alone and also cumulatively. Colleges were instructed to exclude credits earned by examination, previous transfer credits and any credits for remedial/developmental courses.

- *Retention rate.* For each of the three study groups, colleges reported the percentage of students who returned in the fourth semester, based on the original cohort.

The rate of retention of an entering group of students is a traditional measure of the health of an institution of higher education, but it must always be interpreted in light of the institution's mission and sector as well as in light of the objectives of the students.

Interpretation of retention rates for two-year colleges must take into consideration their more varied missions and their open-door admission policies relative to four-year schools. While many students seek associate-level degrees in New Jersey's county colleges, a substantial number seek early transfer to a four-year school or desire to complete only a few career-oriented courses. Early transfer of such students (i.e., at the second or third semester) may be seen as a mark of the institution's success in preparing these students, but at the same time this success lowers the institution's reported retention rates. On the other hand, a very low retention rate may indicate that an institution is not meeting its students' needs and that its policies and/or services should be reviewed.

Students leave college for a variety of reasons: poor grades, transfer to other institutions, poor health, financial hardship and changes in career goals. Therefore, in inspecting data reported here, it is important to examine the retention rates of the students who completed remediation relative to those of the students who did not need remediation at the same college.

- *Successful survival rate (SSR).* The successful survival rate (SSR) is a composite measure designed to assess the relative success of an academic program by combining the GPA variable and the retention rate. The rationale for this indicator is that mere retention is not sufficient. The successful survival rate for the four-semester cohort can be illustrated as follows: if 100 freshmen enrolled in the fall and 80 remained four semesters later; and of those 80, 65 had a cumulative GPA above 2.0, then the SSR would be 65/100 or 65 percent. Note that this rate is lower than the retention rate (i.e., 80%) because it asks the question: "How many students, as a percentage of the original cohort, both remained and had a "C" or better average?"

Full- and Part-time Status:

For purposes of this study, definitions of full- and part-time status are based on the students' initial enrollment status in their entering fall semester (i.e., Fall 1987 status as recorded at the end of the institution's drop/add period). This initial status is "frozen," irrespective of any changes in that status that may have occurred later. Hence, some of the students here defined as either full-time or part-time may, in fact, have switched their status by the end of the four-semester study period.

The policy of the Board of Higher Education concerning part-time students with remedial needs is that such students should be enrolled in remediation within four semesters. Since this report covers only a four-semester time span, subsequent academic performance outcomes for part-time students were not required from the colleges. Because of irregular enrollment patterns and lower course loads, part-time students who have severe skills deficiencies may not complete remediation within two academic years.

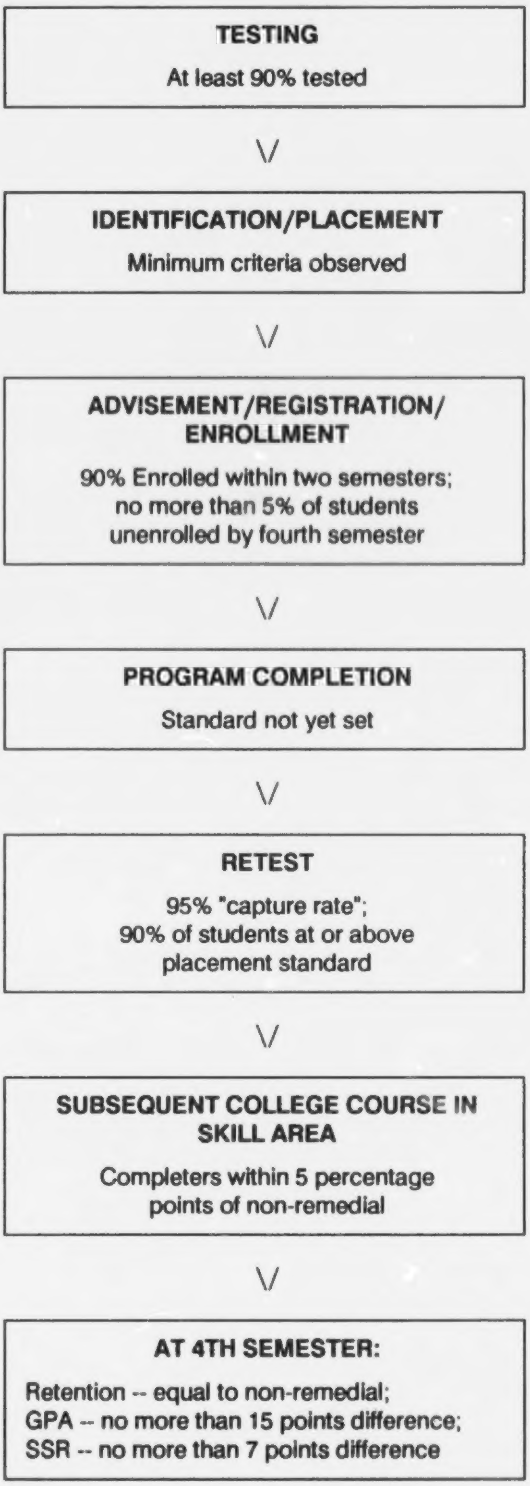
The Council has previously reported (October 18, 1985, report to the Board of Higher Education on the "Character of Remedial Programs in New Jersey Public Colleges and Universities, Fall 1984") the results of a special follow-up study of skills-deficient, part-time students. One finding in that study was that very few part-time students in need of remediation actually attend college for four consecutive semesters.

Standards for Evaluating Remedial Programs:

Upon the recommendation of the Basic Skills Council, the Board of Higher Education promulgated (March, 1989) a set of provisional, quantitative standards on the outcome indicators discussed above. After a year's discussion and input from the institutions, a permanent set of standards was passed in April, 1990. These standards are reproduced in Appendix B and were used by the Committee throughout the review process. Chart A shows the relationship between the chronology of the remediation process (from initial testing to fourth semester outcomes measures) and the standards employed at each point in time.

CHART A:

TYPICAL COLLEGE REMEDIATION PROCESSES, OUTCOME INDICATORS AND STANDARDS


TESTING
At least 90% tested
IDENTIFICATION/PLACEMENT
Minimum criteria observed
ADVISEMENT/REGISTRATION/ENROLLMENT
90% Enrolled within two semesters; no more than 5% of students unenrolled by fourth semester
PROGRAM COMPLETION
Standard not yet set
RETEST
95% "capture rate"; 90% of students at or above placement standard
SUBSEQUENT COLLEGE COURSE IN SKILL AREA
Completers within 5 percentage points of non-remedial
AT 4TH SEMESTER:
Retention -- equal to non-remedial;
GPA -- no more than 15 points difference;
SSR -- no more than 7 points difference

FINDINGS

Results of Institutional Program Reviews

The Assessment Committee treated each of the 115 programs separately, after having considered any implications of the effectiveness of the institution's overall policy administration. The consensus decisions on each program can be found in the section of this report that deals with each college.

> *Twelve programs were judged to have strong patterns of student outcomes.*

In general the committee found that while meeting any given quantitative standard was relatively easy, meeting all standards was difficult and therefore a rare occurrence. In fact only twelve programs (10% of the total) were judged to have "strong" patterns of student outcomes combined with adequate to strong policy administration. These programs met or exceeded all the standards for student outcomes. Most common (93 of 115 programs) was the judgment that the remedial program presented a "mixed" picture of policy administration and outcomes measures. Programs in the "mixed" category have diverse outcome patterns. Some were very close to being in the "strong" category while other could be considered only slightly above being "weak". In these cases it is particularly important to consult the individual program profile for the committee's analysis. Ten programs were judged to have weak patterns of student outcomes relative to the standards. These programs appeared to have problems significant enough to require immediate attention by the Department of Higher Education.

Policy Administration: Strong and Weak Programs

Policy administration refers to an institution's success in meeting Board mandates and Council policies. These include conducting placement testing, enrolling full-time students in needed remediation, and conducting retesting of remediation completers. The Assessment Advisory Committee's analysis and judgment identified five institutions with strong patterns of performance in policy administration for the period 1987-1989:

Raritan Valley Community College
Richard Stockton State College
Sussex County Community College Commission
Trenton State College
William Paterson College of New Jersey

The same review and analysis for the period 1987-89 revealed weak patterns of performance in policy administration for 12 other institutions:

Atlantic Community College
Brookdale Community College
Camden County College
Montclair State College
Ocean County College
Passaic County Community College
Ramapo College of New Jersey
Salem Community College
Union County College
Rutgers, Newark
Rutgers, New Brunswick

The remaining institutions fall into the mixed category, with strong performance in some but not all areas of policy administration. Circumstances may have changed and outcomes may have improved or deteriorated at institutions in any category since the follow-up period of this report.

Remedial Program Effectiveness: Strong and Weak Programs

The determination of a remedial program's effectiveness is based upon student outcomes and reasoned judgment by the Assessment Advisory Committee of the program's overall effectiveness in meeting the standards of the Council. Some of these standards, such as retesting results, have an external anchor, while other outcomes (e.g. disparities in retention rates, GPA data, and course passing rates) are institutions-specific internal measures. Consequently, inter-institutional comparisons of remedial programs are not justified because of difference in institutional missions, student populations and cohort sizes. Moreover, this report analyzes data comparing the subsequent performance of students who need remediation with those who do not, but it does not take into account the academic demands placed on students at different institutions; therefore students completing a program labeled "weak" may have a higher level of skill than those completing a program labeled "strong" (and vice versa).

The Assessment Advisory Committee's review and analysis identified strong outcomes patterns for the following programs in 1987-89. However, student outcomes for a program in any category may have improved or declined since the follow-up of this report.

Reading: Cumberland County College, Gloucester County College, Glassboro State College and Kean College of New Jersey.

Writing: Cumberland County College and Mercer County Community College.

Computation: Burlington County College and Cumberland County College.

Elementary Algebra: Raritan Valley Community College, Sussex County Community College Commission, William Paterson College of New Jersey and Ramapo College of New Jersey.

The above programs met all of the outcome standards. In contrast, the following programs did not meet most of the standards and were judged to have weak outcome patterns:

Reading: Burlington County College.

Writing: Ocean County College, Jersey City State College, Montclair State College and Rutgers, Newark.

Computation: Passaic County Community College and Montclair State College.

Elementary Algebra: Essex County College, Rutgers, Newark and Rutgers, New Brunswick.

The remaining programs fall into the mixed category, with strong patterns of performance on some but not all indicators. Students outcomes for a program in any category may have improved or declined since the follow-up period of this report.

Finally, two institutions did not provide a remedial elementary algebra program during the follow-up period of this report:

Atlantic Community College
Gloucester County College

Consequently, no judgment could be made about the effectiveness of elementary algebra remediation at these institutions.

Table 1 displays the patterns of standards met and not met for administrative indicators, placement criteria and student outcomes by individual programs. In Table 1 the shaded areas are added to emphasize the patterns of unmet standards. It can be seen that most programs in the "mixed" category missed but one or two of the standards. However, the patterns varied greatly.

In addition, two colleges, Warren County College Commission and Thomas A. Edison State College were not categorized because of the special conditions that apply to these two institutions. The former was in a start-up condition with most remediation delivered to a very small number of students by other colleges and the latter is an "alternative" institution where all instruction is given at other institutions. Both of these colleges were held responsible only for their policy administration effectiveness.

Programs with Problematic Data

The interpretation of the outcomes data for two colleges (Camden and Salem Community Colleges) caused the committee concern. In each case the institution had one or more remedial programs that appeared to meet **all** the outcome standards (i.e., could be classified as "strong"), yet the policy administration deficiencies at these institutions were so glaring as to raise questions about the significance of the outcomes. Consequently the programs in question (Camden: Writing, Computation and Algebra; Salem: Algebra) were not categorized. Refer to the respective program profiles for a more complete description.

TABLE 1

SUMMARY OF STANDARDS MET AND NOT MET ON PROGRAM REVIEW INDICATORS

Remedial Program Review, '87 Cohort (+ = MET STANDARD)

		Administrative*					Placemt*	Student Outcomes*				
College	*Area*	*TestFT*	*TestPT*	*Enr2FT*	*NEnr4FT*	*Rtest Rate*	*P Criteria*	*Retest*	*1stC-LCours*	*GPA>/=2*	*Return4*	*SSR*
Atlantic	Read & Writ	-	-	-	+	+	+	-	-	+	+	+
Atlantic	Computation	-	-	-	+	+	-	+	+	+	+	+
Atlantic	Algebra	-	-	-	+	-						
Bergen	Read & Writ	+	+	+	+	-	+	-	+	+	+	+
Bergen	Writing	+	+									
Bergen	Computation	+	+	-	+	-	+	-	-	+	+	+
Bergen	Algebra	+	+	-	-	-	+	-	-	+	+	+
Brookdale	Reading	+	-	+	+	+	+	-	-		+	
Brookdale	Writing	+	-	+	+	+	+	-	-		+	
Brookdale	Computation	+	-	-	-	+	+	+	-		+	
Brookdale	Algebra	+	-	-	-	-	+	+	-		+	
Burlington	Reading	+	+	-	+	-	+	-	-	-	+	+
Burlington	Writing	+	+	+	+	-	+	-	+	-	+	+
Burlington	Computation	+	+	-	-	-	+	+	+	+	+	+
Burlington	Algebra	+	+	-	-	-	+	+	-	+	+	+
Camden	Reading	-	-	-	-	-	+	-	+	+	+	+
Camden	Writing	-	-	+	-	-	+	+	+	+	+	+
Camden	Computation	-	-	-	-	-	+	+	+	+	+	+
Camden	Algebra	-	-	-	-	-	+	+	+	+	+	+
Cumberland	Reading	+	-	-	-	+	+	+	+	+	+	+
Cumberland	Writing	+	-	+	+	+	+	+	+	+	+	+
Cumberland	Computation	+	-	+	+	-	+	+		+	+	+
Cumberland	Algebra	+	-	-	-	+	+	+	-	+	+	+
Essex	Reading	+	+	-	+	-	+	-	-	+	+	+
Essex	Writing	+	+	-	+	-	+	-	+	+	-	+
Essex	Computation	+	+	+	+	-	+	+		-	-	-
Essex	Algebra	+	+	-	+	-	+	-	-	-	+	+
Gloucester	Reading	+	+	+	+	+	+	+	+	+	+	+
Gloucester	Writing	+	+	+	+	+	+	+	+	-	+	+
Gloucester	Computation	+	+	+	+	+	+	+	-	+	+	+
Gloucester	Algebra*											

TABLE 1 CONT'D

Remedial Program Review, '87 Cohort (+ = MET STANDARD)

		Administrative *					Placemt*	Student Outcomes *				
College	*Area*	*TestFT*	*TestPT*	*Enr2FT*	*NEnr4FT*	*Rtest Rate*	*P Criteria*	*Retest*	*1stC-LCours*	*GPA>/=2*	*Return4*	*SSR*
Hudson	Reading	+	+	-	+	+	+	+	-	+	-	+
Hudson	Writing	+	+	+	+	+	+	+	-	+	+	+
Hudson	Computation	+	+	-	+	+	+	+	-	+	-	-
Hudson	Algebra	-	-	-	-	+	+?	+	+	+	+	+
Mercer	Reading	+	+	+	+	-	+	+	-	-	+	+
Mercer	Writing	+	+	+	+	+	+	+	+	+	+	+
Mercer	Computation	+	+	+	+	+	+	+	-	+	+	+
Mercer	Algebra	+	+	-	+	+	+	+	-	+	+	+
Middlesex	Reading	+	+	+	+	-	+	+	-	+	+	+
Middlesex	Writing	+	+	+	+	-	+	-	+	+	+	+
Middlesex	Computation	+	+	+	+	-	+	+	-	+	+	+
Middlesex	Algebra	+	+	+	+	-	+	+	+	+	+	+
Morris	Reading	+	+	+	+	-	+	-	+	+	+	+
Morris	Writing	+	+	+	+	+	+?	-	+	+	+	+
Morris	Computation	+	+	+	+	-	+	+	+	+	+	+
Morris	Algebra	+	+	-	+	-	+	+	+	+	+	+
Ocean	Reading	+	-	-	+	-	+	-	+	+	+	+
Ocean	Writing	+	-	+	+	-	-	-	+	+	-	-
Ocean	Computation	+	-	-	+	-	+	+	+	+	-	+
Ocean	Algebra	+	-	-			+	-	-			
Passaic	Reading	-	-	-	-	-	+?	-	+	-	+	+
Passaic	Writing	-	-	+	+	-	+?	+	-	-	+	+
Passaic	Computation	-	-	+	-	-	+?	-		-	+	+
Passaic	Algebra	-	-	+	+	-	+?	-			+	
Raritan Valley	Reading	+	+	+	+	+	+	-	+	-	+	+
Raritan Valley	Writing	+	+	+	+	-	+	+	+	-	+	+
Raritan Valley	Computation	+	+	+	+	+	+	+	-	+	+	+
Raritan Valley	Algebra	+	+	+	+	+	+	+	+	+	+	+
Salem	Reading	-	+	+	+	-	+	-	+	+	-	-
Salem	Writing	-	+	+	+	-	+	-	+	-	+	-
Salem	Computation	-	+	+	+	-	-	-	+	+	+	+
Salem	Algebra	-	+	-	+	-	+	+	+	+	+	+

TABLE 1 CONT'D

Remedial Program Review, '87 Cohort (+ = MET STANDARD)

		Administrative*					Placemt*	Student Outcomes*				
College	*Area*	*TestFT*	*TestPT*	*Enr2FT*	*NEnr4FT*	*Rtest Rate*	*P Criteria*	*Retest*	*1stC-LCours*	*GPA>/=2*	*Return4*	*SSR*
Sussex	Reading	+	+	+	+	+	+	-	+	-	+	+
Sussex	Writing	+	+	+	+	+	+	-	+	+	+	+
Sussex	Computation	+	+	+	+	+	+	+		-	+	+
Sussex	Algebra	+	+	+	-	+	+	+	+	+	+	+
Union	Reading	+	-	+	+	-	+	-	+	+	+	+
Union	Writing	+	-	+	+	-	+	-	+	+	+	+
Union	Computation	+	-	+	+	-	+	+	-	+	+	+
Union	Algebra	+	-	+	-	-	-	+	+	+	+	+
Warren	Reading				+	+	+					
Warren	Writing				+	+	+					
Warren	Computation				+	+	+					
Warren	Algebra				+	+	+					

*KEY TO COLUMN HEADINGS

ADMINISTRATIVE

TestFT =	Tested at least 90 percent of full-time students.
TestPT =	Tested at least 90 percent of part-time students.
Enr2FT =	Enrolled at least 90 percent of full-time students identified for remediation within two semesters.
NEnr4FT =	No more than 5 percent of full-time students identified had not yet enrolled within four semesters.
Rtest Rate =	At least 95 percent of students who completed remediation were retested.

PLACEMENT

PCriteria =	Placement criteria met Standard(s); ? = some question on one of the multiple indicators used.

STUDENT OUTCOMES

Retest =	Ninety percent of retested students met placement criteria within one Standard Error of Measurement (SEM).
1stC-L-cours =	Difference between remediated and non-remedial students in first college level course is 5 percent or less.
GPA>=2 =	Difference between remediated and non-remedial students in percentage of cohort at or above a 2.0 is 15 percentage points or less.
Return4 =	Difference between remediated and non-remedial students in retention rates is zero.
SSR =	Difference between remediated and non-remedial students in Successful Survival Rate (SSR) is 7 percentage points or less.

TABLE 1 CONT'D

Remedial Program Review, '87 Cohort (+ = MET STANDARD)

		Administrative*					Placemt*	Student Outcomes*				
College	*Area*	*TestFT*	*TestPT*	*Enr2FT*	*NEnr4FT*	*Rtest Rate*	*P Criteria*	*Retest*	*1stC-LCours*	*GPA>/=2*	*Return4*	*SSR*
Glassboro	Reading	+	-	+	+	+	+	+	+	+	+	+
Glassboro	Writing	+	-	+	+	-	+	+	-	+	+	+
Glassboro	Computation	+	-	+	+	+	+	+	-	+	+	+
Glassboro	Algebra	+	-	-	+	+	+	+	-	+	+	+
Jersey City	Reading	+	+	+	+	-	+		+	-	+	-
Jersey City	Writing	+	+	+	+	-	-		+	+	+	+
Jersey City	Computation	+	+	+	+	-	+		+	+	+	+
Jersey City	Algebra	+	+	+	+	-	+		+	+	+	+
Kean	Reading	+	-	+	+	+	+	+	+	+	+	+
Kean	Writing	+	-	+	+	+	+	-	-	+	+	+
Kean	Algebra*	+	-	+	+	-	+	+	-	+	+	+
Montclair	Reading	+	+	-	-	-	+		+	-	+	-
Montclair	Writing	+	+	+	+	-	-		+	-	-	-
Montclair	Computation	+	+	+	+	-	-		-	-	-	-
Montclair	Algebra	+	+	-	-	-	-?		+	+	+	+
Ramapo	Reading	+	-	-	+	+	+	+	+	-	+	-
Ramapo	Writing	+	-	+	+	+	+	+	+	-	+	-
Ramapo	Computation	+	-	-	+	+	+	+	-	+	+	+
Ramapo	Algebra	+	-	-	+	+	+	+	-	+	+	+
Stockton	Reading*	+	+	+	+	+	+	-	-	+	+	+
Stockton	Writing	+	+	+	+	+	+	-	+	+	+	+
Stockton	Computation*	+	+	+	+	+	+	-	+	+	+	-
Thomas Edison	Reading		-				+					
Thomas Edison	Writing		-				+					
Thomas Edison	Computation		-				+					
Thomas Edison	Algebra		-				+					
Trenton	Reading	+	+	+	+	-	+	+	-	-	+	-
Trenton	Writing	+	+	+	+	+	+	+	-	+	+	-
Trenton	Computation	+	+	+	+	+	+	+	-	+	+	+
Trenton	Algebra	+	+	+	+	+	+	+	-	+	+	+

TABLE 1 CONT'D

Remedial Program Review, '87 Cohort (+ = MET STANDARD)

		Administrative*					Placemt*	Student Outcomes*				
College	*Area*	*TestFT*	*TestPT*	*Enr2FT*	*NEnr4FT*	*Rtest Rate*	*P Criteria*	*Retest*	*1stC-LCours*	*GPA>/=2*	*Return4*	*SSR*
Wm. Paterson	Reading	+	+	+	+	+	+?	+	+	+	-	-
Wm. Paterson	Writing	+	+	+	+	+	+	+	+	-	+	-
Wm. Paterson	Computation	+	+	+	+	+	+	+	+	-	+	-
Wm. Paterson	Algebra	+	+	+	+	+	+	+	+	+	+	+
Rutgers-Camden	Reading	+	+	-	+	-	+		+	+	-	-
Rutgers-Camden	Writing	+	+	+	+	-	+	-	+	+	-	-
Rutgers-Camden	Comp & Alge	+	+	+	+	-	+	+	-	+	-	-
Rutgers-Newark	Read & Writ*	-	-	+	+	-			-	-	-	-
Rutgers-Newark	Comp & Alge	-	-	-	+	-	+?	-	-	+	-	-
Rutgers-N.Bruns	Read & Writ	+	+	+	-	-	+?	+	+	-	-	-
Rutgers-N.Bruns	Comp & Alge	+	+	-	-	-	+?	+	-	-	-	-
NJIT	Read & Writ*	+					+?					
NJIT	Writing	+		+	+	-	+?		+	+	-	+
NJIT	Algebra*	+		+	+	-	-?		-	+	+	+

*KEY TO COLUMN HEADINGS

ADMINISTRATIVE

TestFT =	Tested at least 90 percent of full-time students.
TestPT =	Tested at least 90 percent of part-time students.
Enr2FT =	Enrolled at least 90 percent of full-time students identified for remediation within two semesters.
NEnr4FT=	No more than 5 percent of full-time students identified had not yet enrolled within four semesters.
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GPA>=2 =	Difference between remediated and non-remedial students in percentage of cohort at or above a 2.0 is 15 percentage points or less.
Return4 =	Difference between remediated and non-remedial students in retention rates is zero.
SSR =	Difference between remediated and non-remedial students in Successful Survival Rate (SSR) is 7 percentage points or less.

STATEWIDE OVERVIEW

The summaries below refer to weighted averages that artificially combine colleges and sectors for ease of description. These data are presented in tabular form on pages 21 through 28.

Testing

Tables 2-5 provide summary data for the public colleges by sector and statewide. Colleges have been doing an excellent job of testing their full-time entering students, with testing rates generally over 97%. This easily meets the Board's expectation that at least 90% of students will be tested. Eighty-seven percent of institutions met the testing standard for full-time students. The testing rates for part-time students, however, continue to be a problem, particularly at the county colleges. The statewide part-time student testing rate is just under 85%, with 90% being expected. The county colleges, which enroll the majority of part-timers, averaged 82% of these students tested. Only 68% of the institutions reached the standard in testing of part-time students.

Identification for Remediation

Each year the Basic Skills Council reports on the results of the fall placement testing to the Board of Higher Education. For this purpose consistent NJCBSPT proficiency categories are applied to all students across colleges. In placing students, colleges are encouraged to use multiple criteria including the NJCBSPT scores for placement. Colleges use a variety of algorithms and combinations of subtests but the cut scores used are not to fall below the minimum placement criteria standards listed in Appendix B of this report. In the Fall 1987 report the Council noted that 34% of students tested lacked proficiency in verbal skills, 46% lacked proficiency in computation and 57% lacked proficiency in elementary algebra. The report included full- and part-time students as well as some who may not have subsequently registered for enrollment. Outcomes of the colleges' placement processes can be seen in the summary tables. Forty-four percent of full-time students were identified for reading remediation, 32% for writing, 49% for computation and 42% for elementary algebra. The algebra percentage differs most from the Council's test results because of policies in effect at some colleges in 1987 wherein students were exempted from needed algebra remediation if they selected a major or program which did not require mathematics. A recent Board resolution (June, 1990) eliminated these exemptions and for the Fall 1992 cohort all colleges must place into remediation all students who fall below the placement cut in elementary algebra.

Timely Enrollment

With the exception of the algebra area which often requires that students first complete computation remediation, the expectation of colleges is that they will enroll full-time students in needed remediation within two semesters at a rate of at least 90%. Statewide, the full-time student enrollment rate in reading was 93%, in writing, 95%, and in computation, 89%. The rate for algebra was only 65%. In terms of institutions meeting the enrollment standard for full-time students, 62% met the standard in reading; 82% in writing; 65% in computation and only 43% in elementary algebra. Enrollment of part-time students needing remediation (within four semesters) was not as successful. In reading 70% were enrolled, in writing, 71%; and in computation, 64%. Enrollment of part-timers in algebra remediation was only 39%. The special circumstances that often prevail for part-time students (enrollment in consecutive semesters is rare; only one or two courses are taken per semester; student goals are often not degree oriented, etc.) make it extremely difficult for colleges to attain high enrollment rates for such students, particularly where their numbers are large.

"Unenrolled" Students

The percentage of students who were identified for but had not begun remediation by the spring of 1989 (the fourth semester of this longitudinal study) is a measure of the administrative effectiveness of colleges. The statewide averages for "present but not enrolled" students were 3% in reading, 2% in writing, 4% in computation and 10% in elementary algebra. In terms of individual programs meeting this standard for enrollment at four semesters, 85% met it in reading; 96% in writing; 85% in computation; and only 68% in elementary algebra.

Program Completion

Colleges and sectors vary in terms of the needs of their students for remedial help. Programs vary from one to three levels of remedial courses within a skill area. Since it was not clear that the expectation for percentage completion should be uniform for colleges with multiple levels vs. those with only one level (and likely a better-prepared student body), no standard has yet been set for this indicator. The data in Tables 2-5 indicate that full-time students average 72% completion by course work in reading, 74% in writing, 68% in computation, and 63% in elementary algebra.

Retesting

Beginning with the Fall 1987 cohort the Board required that students who complete their college's remedial prescription be retested with the appropriate section(s) of the NJCBSPT. This is the first report in which data on retesting has been available for thousands of students. It should be noted that not all colleges were equally successful in gearing up for retesting and delivering results to the committee in high percentages. The expectation is that 95% of the students completing remediation will be retested. This standard for "capture" rate was met by 41% of the reading programs; 46% of the writing programs; 50% of the computation programs; and 36% of the elementary algebra programs. The capture rates for retesting are noted for each college in its respective profile. Statewide, 4,377 students were retested in reading with 87% meeting the standard. In writing, 4,153 students were retested and 86% reached the standard. For computation and algebra the respective figures (and percentages) were 5,216 (95%) and 3,618 (95%). The Board's standard is 90% of the cohort to reach the minimum or fall within the error of measurement (SEM) of the test. On average the remedial programs in reading and writing are just missing that expectation while the mathematics programs meet it easily.

Retention

The expected standard for retention of remediated students is that their rate will be no different from that of their non-remedial peers. In fact, in many programs the retention of remediated students actually exceeds that of non-remedial students in the fourth semester. Statewide, the retention rate for reading remediated students (68%) was higher than that of non-remedial students. The retention rate for writing remediated students was five points lower than that of non-remedial students (66% vs. 71%). In computation, retention rates of the two groups were within one point (65% for completers, 66% for non-remedial). In the algebra skill area, remediated students had an average retention rate one point higher than the non-remedial students (77% vs. 76%).

In many programs the retention rate of remediated students actually exceeds that of non-remedial students.

A very different retention picture is observed for students who are identified for but do not complete remediation within four semesters. Only 22% from reading, 23% from writing, 28% from computation identified students were retained in the fourth semester. These rates are only about a third that of students who complete remediation. Algebra-deficient students who did not complete remediation fared better, with 42% present in the fourth semester.

Figures 1-4 (page 29-32) summarize the outcomes on the indicators just discussed in terms of numbers of students by collegiate sector for each of the four remedial skill areas. When numbers of students are plotted in this way, the relative magnitude of the job in remediation being done by the county colleges is apparent. In each of the skill areas a pattern of attrition is also evident. In the four figures, the bars representing the number of students placed at entry and those indicating the number of students retained in the fourth semester show the size of the decline. It should be noted that a similar pattern is found for non-remedial students. The last bar in Figures 1-4 represents the number of students retained from the original cohort identified for remediation. When expressed in terms of a percentage, as noted in the Retention discussion above, the retention of remedial completers is equal to or better than that of non-remedial students.

Success in Subsequent College Courses

One indicator with obvious face validity for remedial program success is the performance of remediated students in the next, subsequent college-level course relevant to the skill area. In writing the subsequent course is typically English

Composition; in computation and algebra it is the first relevant college math course; and, in reading, it is a variety of freshman courses such as Western Civilization, Sociology, Psychology, etc. The Board standard on this indicator is that the difference in passing rates for non-remedial and remediation-completed students should not exceed five percentage points. The average difference in subsequent course passing rates in reading was four points (89% vs. 85%), in writing, five points (89% vs. 84%), in computation, seven points (83% vs. 77%) and in algebra, two points (83% vs. 81%). The subsequent course passing indicator suggests that remediated students are succeeding nearly as well in the relevant next course as the non-remedial students in the same colleges.

Credits Attempted and Earned

Non-remedial, full-time students have more opportunity to attempt and earn college credits than remedial students within the four-semester time limit of the study. Remedial courses carry no credit toward the degree but they still constitute a significant portion of some students' course load. Consequently remedial completers are slightly behind non-remedial students in their earned credit count at the four semester mark. For students in reading the deficit is eight credits earned (40 vs. 48); in writing, eight credits (37 vs 45); in computation, 10 credits (38 vs. 48); and in algebra, only three credits (43 vs. 46). Although remediated students are almost invariably behind in their credits-earned count, their rate of success in terms of the ratio of credits earned to attempted is similar to that of non-remedial students. For reading remediated students the earned/attempted ratio was .87 vs. .91 for non-remedial students. In the other skill areas the credit ratio comparisons between remediated and non-remedial students were as follows: writing, .90 vs .93; computation, .86 vs. .91; and, algebra .90 vs. .93. In contrast, students who did not complete remediation had much lower credits-earned ratios: reading .77; writing, .74; and, computation, .74. Students who did not complete algebra appeared less affected, with a ratio of .85.

Grade Point Averages

Several measures of college grade success were collected for this study. In addition to passing rates in the subsequent college-level course, the cumulative Grade Point Averages (GPA's) of each of the study groups and the percentage of students with averages at or above a 2.0 (of "C") were recorded. While no standard could (or should) be set for average GPA for remediated students, the standard for the expected difference between non-remedial and remediated students in terms of percentage of the cohort above a "C" is a maximum of 15 percentage points.

In terms of cumulative GPA's on a statewide basis, both the non-remedial and the remediated groups maintained averages above a "C" through the fourth semester. Students who completed remediation did not record GPA's as high as non-remedial students but the difference was within a third of a grade point in reading (2.65 vs. 2.32), writing (2.60 vs. 2.27) and computation (2.61 vs. 2.31). In the Algebra area the GPA's differed by only .15 of a grade point (2.64 vs. 2.49). In contrast, students who did not complete remediation posted GPA's below a "C" for the reading group (1.96), writing (1.69) and computation (1.96). Students not completing algebra again proved to be an exception by posting a cumulative GPA of 2.24.

In terms of the percentage of students at or above a "C" average, students completing reading remediation differed from non-remedial students by eleven points (75% vs. 86%). In the writing area the difference was 15 points (70% vs. 85%) and in computation the difference was nine points (75% vs. 84%). In algebra the gap was only four points (81% vs. 85%).

Successful Survival Rate

Successful Survival Rate (SSR) combines the measure of four semester retention of the original cohort with the percentage with GPA's at or above a "C". The expected standard is that the remediated students will not differ by more than 7 points on this indicator from the non-remedial students. In the reading area the statewide average SSR gap was five points between the non-remedial students (57%) and the completers (52%). The "gaps" and respective comparisons for the other skill areas were as follows: writing, 14 points (62% vs. 48%); in computation, eight points (56% vs. 48%); and in algebra, one point, (64% vs. 63%).

OVERVIEW BY SECTORS

Figures 5-8 (page 33) display the student outcome measures just discussed, by skill area for the county colleges. For each indicator the results for non-remedial, remediation-completed, and remediation-not-completed student groups are shown, affording a visual comparison among the three study groups. On every indicator in each skill area the disadvantage to the students not completing remediation is clear. In addition, in every skill area in the county college sector, students who complete remediation are retained (first set of bars) in greater percentages than non-remedial students. Further, the close performance in terms of passing the relevant subsequent, college-level course between the completers and the non-remedial students is clear. The SSR's of students completing remediation exceed those of non-remedial students in the Reading and Algebra skill areas, and are within two points of each other in the Writing and Computation areas.

Figures 9-12 (page 34) display the student outcome measures by skill area for the state college sector. Here, too, the disadvantage in terms of outcomes, particularly in SSR, to students not completing remediation is evident. Retention of remediation-completers is about equal to non-remedial students in the Reading, Writing and Computation areas. In Algebra, completers show better fourth semester retention than non-remedial students. In all skill areas the passing rates in the relevant, subsequent college-level courses are above 85% and remediation-completers are within a few percentage points of those of the non-remedial students. The SSR's of completers in Algebra equal those of non-remedial students at the state colleges while the differences between the two groups in Reading, Writing and Computation range from nine to 12 percentage points.

> *The statewide student outcomes are also positive for those completing remediation.*

Figures 13-15 (page 35) provide summaries of the outcome measures available from the Rutgers University campuses. Figure 13 reflects the Camden campus only, since it alone has Reading remediation as a separate program. Computation does not appear since the University reports that it does not offer a stand-alone computation level program. Students not completing remediation in Writing are at particular disadvantage (note the SSR, GPA and Retention bars) in the Writing skill area, while students who do not complete Algebra remediation are at much less of a disadvantage (see the Rutgers, New Brunswick program review for more details). Across the three skill areas, remediated students pass the relevant, subsequent college-level course at rates from two to eight percentage points lower than those of their non-remedial classmates. The SSR's of remediated students at Rutgers range from 10 to 26 percentage points below those of non-remedial students.

CONCLUSION

The summaries above refer to weighted averages that artificially combine colleges and sectors for ease of description. As can be seen in Tables 2-5 there is considerable variation across sectors: and, as the individual college reviews that follow indicate, considerably more variation among programs. Taken in its broadest sweep, however, it is clear that New Jersey public institutions are meeting Board mandates on testing and enrolling full-time students but can improve with part-time students.

The statewide student outcomes are also positive for those completing remediation. For students completing remediation, retention rates, retest success, subsequent college course passing rates, credits attempted/earned ratios, and GPA's indicate that the remediation effort is succeeding at New Jersey's public colleges and universities. Weaknesses in individual programs however, are apparent and are delineated in the next section of the report.

In addition, the committee's review of the three sets of longitudinal data revealed three chronic areas of concern for several institutions. These include:

- *Inadequate Reporting:*
  Both Atlantic Community College and Montclair State College have long histories of missing or inadequate

basic skills reports (see explanations in institutional profiles).

- *Granting Degree Credit for Remedial Courses*:
  Several institutions continue to grant graduation credits for some of their remedial courses. These institutions were Atlantic, Cumberland, and Passaic County Colleges, as well as Jersey City and Montclair State Colleges. These practices are in opposition to long standing Board of Higher Education resolutions.

- *Placement Criteria That Do Not Meet Minimum Standards*:
  Several institutions employed placement procedures and/or cut scores which were below the minima suggested by the Basic Skills Council. These were: *in Writing* - Jersey City State, Montclair State and Ocean County Colleges; in *Computation* - Atlantic and Salem County Colleges, as well as Montclair State College; and *in Elementary Algebra* - Montclair State and Union County Colleges.

RECOMMENDATIONS

This document is the fourth report to the Board of Higher Education on the effectiveness of the state's public college remedial programs. While each of the previous reports commented on individual programs, this is the first time that the Council's Assessment Advisory Committee reviewed three, successive (1985-87, 1986-88, 1987-89) two-year cohorts for each program and compared the outcomes to quantitative standards. Consequently the committee is confident both in its interpretation of the statistical outcomes and in the validity of its summative judgments of programs. The committee therefore makes the following recommendations:

- Programs judged to be "weak" in patterns of student outcomes measures (see pages 8 and 9) need immediate attention. The Assessment Committee's extensive review leads it to conclude that 1) analysis of local campus processes is one factor needed to improve weak performance; and, 2) responsibility for an unsuccessful program lies with the institution as a whole, not just the remedial program in question. The Basic Skills Council therefore suggests that follow-up procedures be implemented by the Department of Higher Education (DHE) for the ten "weak" programs. Such procedures could include examination of their most recent outcomes (i.e., the 1988-90 and 1989-91 cohorts), review of campus processes/ procedures, site visits, and recommendations for improvements.

- Upon completion of the follow-up, programs still considered in the "weak" category after review of more recent results should then submit improvement plans to the Department of Higher Education. Improvement of weak remedial programs should be a specific point of discussion between the institution and the Board of Higher Education Budget Committee during its hearings for annual funding requests. Special attention should be paid by reviewers in the first year to the adequacy of the improvement plan, and in the second year to evidence of improvement in terms of meeting the Board's Standards for evaluating Remedial Program Effectiveness.

- For future assessments of basic skills programs not currently in the "weak" category, the Department should consider reducing annual reporting requirements by initiating a new periodic review process. Such reviews would replace the current format of assessing all programs in one report. Data will continue to be required annually, but complete written reports could be scheduled to coincide with individual institutions' Middle States visits.

- All institutions have some "Areas of Concern" delineated in their respective program profiles. The

Chancellor of Higher Education should recommend that college presidents respond and address the issues at their respective campuses.

- At a few institutions, "Areas of Concern" were noted as long-standing and continuing problems of compliance with Board of Higher Education policies (see page 18). The Council recommends that these be addressed by the Chancellor and the Department of Higher Education.

- Each institution should be expected to include its remedial programs in the "maintain/enhance" categories of the Institutional Comprehensive Analysis required by the Board of Higher Education. Coverage of the outcomes and needs of their remedial/developmental education services should be included in institutional strategic planning documents that are submitted to trustee boards and to the Board of Higher Education. Evidence should be provided that expenditures for remedial programs are at least proportional to those of other academic programs. Where funding allocation formulae exist, such as in the county college sector, evidence should be provided to indicate whether actual expenditures on remedial programs are in line with the allocation formula.

TABLE 2A
POLICY ADMINISTRATION AND REMEDIAL PERFORMANCE BY SECTOR
READING, 1987-1989

Indicators		County Colleges			State Colleges			Rutgers University*			Statewide (1)			Board Standard
		#	%	Range	#	%	Range	#	%	Range	#	%	Range	
Tested	Full-Time	12,372	96	(82-100)	7,082	99	(96-100)	359	100	-	19,813	97	(82-100)	90%
	Part-Time	5,481	83	(32-100)	1,258	86	(58-100)	30	100	-	6,769	84	(32-100)	90%
Identified for Remediation	Full-Time	6,086	49	(33 - 85)	2,615	37	(17 - 64)	67	19	-	8,768	44	(17 - 85)	N/A
	Part-Time	2,368	37	(25 - 82)	626	50	(17 - 68)	17	57	-	3,011	44	(17 - 82)	N/A
Enrolled (any level)	Full-Time	5,513	91	(81-100)	2,486	95	(88-100)	62	93	-	8,174	93	(81-100)	90%
	Part-Time	1,637	63	(24-100)	361	58	(25-100)	2		-	2,098	70	(12-100)	N/A
Present But Not Enrolled by Fourth Semester	Full-Time	180	3	(0 - 15)	60	2	(0 - 6)	3	4	-	243	3	(0 - 15)	<5%
	Part-Time	178	7	(0 - 38)	51	8	(0 - 44)	6	35	-	235	8	(0 - 44)	N/A
Program Completion (by course work)	Full-Time	3,600	64	(27 - 82)	2,233	90	(69 - 93)	61	98	-	5,894	72	(27 - 98)	N/A
	Part-Time	986	60	(23 - 82)	366	85	(68-100)	2	100	-	1,354	65	(23-100)	N/A
Retesting (Reaching Minimum)	Full and Part Time (of those tested)	2,776	83	(53-100)	1,601	95	(72 - 99)	NO DATA		-	4,377	87	(53-100)	90%

* Reading program for Camden Campus only

(1) Includes NJIT.

TABLE 2B
STUDENT PERFORMANCE OUTCOMES*
READING, 1987-1989

Student Outcome Measures		**County Colleges** Remediation Status***			**State Colleges** Remediation Status***			**Rutgers University**** Remediation Status***			**Statewide*** Remediation Status***			**Board Standard**
		A	B	C	A	B	C	A	B	C	A	B	C	
Retained in 4th Semester	#	3,330	2,174	544	3,497	1,705	115	211	43	3	7,038	3,922	662	B=A
	%	53	62	21	77	77	28	72	70	50	60	68	22	
% Pass Subsequent College Course		84	79	-	96	93	-	89	91	-	89	85	-	difference A-B<5%
# Credits Attempted		50	43	33	55	51	41	40	37	37	53	46	35	-
# Credits Earned		44	34	25	53	46	36	40	37	36	48	40	27	-
Cumulative GPA		2.58	2.28	1.96	2.71	2.37	1.95	2.70	2.50	2.30	2.65	2.32	1.96	-
% GPA Greater than "C"		83	74	59	87	76	54	88	76	67	86	75	58	difference A-B<15
% Successful Survival		45	47	14	69	59	18	64	54	34	57	52	15	difference A-B<7

* Percentages are weighted averages across colleges in each sector; statewide includes NJIT.

** Camden Campus Only

*** Remediation Status:

A = Students not needing remediation.
B = Students completing remediation.
C = Students not completing remediation.

TABLE 3A
POLICY ADMINISTRATION AND REMEDIAL PERFORMANCE BY SECTOR
WRITING, 1987-1989

Indicators		County Colleges			State Colleges			Rutgers University			Statewide (1)			Board Standard
		#	%	Range	#	%	Range	#	%	Range	#	%	Range	
Tested	Full-Time	14,422	96	(82-100)	7,082	99	(97-100)	5,384	99	(88-100)	27,345	98	(82-100)	90%
	Part-Time	6,587	82	(32-100)	1,257	86	(57-100)	162	88	(78-100)	8,006	82	(32-100)	90%
Identified for Remediation	Full-Time	5,922	41	(14 - 89)	2,147	30	(16 - 64)	607	11	(9 - 26)	8,804	32	(9 - 89)	N/A
	Part-Time	2,671	41	(12 - 86)	478	38	(0 - 75)	52	32	(16 - 63)	3,201	40	(0 - 86)	N/A
Enrolled (any level)	Full-Time	5,491	93	(80-100)	2,142	99	(92-100)	561	92	(90 - 94)	8,322	95	(80-100)	90%
	Part-Time	1,858	70	(45 - 94)	379	79	(41-100)	27	52	(21 - 89)	2,264	71	(21-100)	N/A
Present But Not Enrolled by Fourth Semester	Full-Time	94	2	(0 - 7)	9	0	(0 - 1)	30	5	(1 - 6)	133	2	(0 - 7)	<5%
	Part-Time	182	7	(0 - 30)	11	2	(0 - 12)	8	15	(0 - 32)	201	6	(0 - 32)	N/A
Program Completion (by course work)	Full-Time	3,786	69	(33 - 82)	1,793	84	(64 - 96)	506	90	(86-100)	6,197	74	(33-100)	N/A
	Part-Time	1,163	63	(26 - 89)	291	77	(25 - 88)	26	96	(88-100)	1,480	65	(25-100)	N/A
Retesting (Reaching Minimum)	Full and Part Time (of those tested)	3,035	83	(52-100)	1,422	93	(82-100)	210	91	(77 - 94)	4,153	86	(52-100)	90%

(1) Includes NJIT.

TABLE 3B
STUDENT PERFORMANCE OUTCOMES*
WRITING, 1987-1989

Student Outcome Measures		**County Colleges** Remediation Status**			**State Colleges** Remediation Status**			**Rutgers University** Remediation Status**			**Statewide*** Remediation Status**			**Board Standard**
		A	B	C	A	B	C	A	B	C	A	B	C	
Retained in 4th Semester	#	4,000	2,250	348	874	1,398	58	4,103	416	31	12,242	4,153	442	B=A
	%	53	60	21	78	77	23	86	79	51	71	66	23	
% Pass Subsequent College Course		86	84	-	94	89	-	95	90	-	89	84	-	difference A-B<5%
# Credits Attempted		50	41	31	55	51	36	43	35	35	49	43	31	-
# Credits Earned		43	34	21	53	46	30	43	35	33	45	37	23	-
Cumulative GPA		2.59	2.28	1.69	2.69	2.39	1.73	2.70	2.32	1.85	2.60	2.27	1.69	-
% GPA Greater than "C"		84	71	49	89	74	43	87	69	29	85	70	46	difference A-B<15
% Successful Survival		45	43	10	69	57	9	75	54	14	62	48	10	difference A-B<7

* Percentages are weighted averages across colleges in each sector; statewide includes NJIT.

** Remediation Status:
A = Students not needing remediation.
B = Students completing remediation.
C = Students not completing remediation.

TABLE 4A
POLICY ADMINISTRATION AND REMEDIAL PERFORMANCE BY SECTOR
COMPUTATION, 1987-1989

Indicators		County Colleges			State Colleges			Rutgers University			Statewide			Board Standard
		#	%	Range	#	%	Range	#	%	Range	#	%	Range	
Tested	Full-Time	14,417	96	(82-100)	6,219	99	(97-100)	Not Offered			20,636	97	(82-100)	90%
	Part-Time	6,598	82	(32-100)	1,037	89	(58-100)				7,635	83	(32-100)	90%
Identified for Remediation	Full-Time	7,185	54	(31 - 93)	1,512	27	(15 - 43)				8,697	49	(15 - 93)	N/A
	Part-Time	3,581	57	(33 - 84)	525	55	(39 - 90)				4,106	57	(33 - 90)	N/A
Enrolled (any level)	Full-Time	6,274	87	(63-100)	1,465	97	(69-100)				7,739	89	(63-100)	90%
	Part-Time	2,301	64	(29 -93)	337	64	(20-100)				2,638	64	(20-100)	N/A
Present But Not Enrolled by Fourth Semester	Full-Time	275	4	(0 - 11)	30	2	(0 - 5)				305	4	(0 - 11)	<5%
	Part-Time	312	9	(0 - 36)	33	6	(0 - 26)				345	8	(0 - 36)	N/A
Completion Rate (by course work)	Full-Time	4,062	65	(30-100)	1,175	80	(54 - 89)				5,237	68	(30-100)	N/A
	Part-Time	1,509	66	(16 - 88)	262	77	(49-100)				1,771	67	(16-100)	N/A
Retesting (Reaching Minimum)		4,314	94	(76-100)	902	98	(89-100)				5,216	95	(76-100)	90%

TABLE 4B
STUDENT PERFORMANCE OUTCOMES*
COMPUTATION, 1987-1989

Student Outcome Measures		**County Colleges** Remediation Status**			**State Colleges** Remediation Status**			**Rutgers University** Remediation Status**			**Statewide** Remediation Status**			**Board Standard**
		A	B	C	A	B	C	A	B	C	A	B	C	
Retained in 4th Semester	#	3,863	2,392	748	3,664	965	91		Not Offered		7,527	3,357	839	B=A
	%	54	60	27	77	77	40				66	65	28	
% Pass Subsequent College Course		79	75	-	91	86	-				83	77	-	difference A-B<5%
# Credits Attempted		51	41	34	56	51	33				53	44	34	-
# Credits Earned		44	34	25	53	47	28				48	38	25	-
Cumulative GPA		2.56	2.29	2.01	2.66	2.38	1.49				2.61	2.31	1.96	-
% GPA Greater than "C"		83	75	63	87	77	38				84	75	60	difference A-B<15
% Successful Survival		45	45	18	68	59	15				56	48	17	difference A-B<7

* Percentages are weighted averages across colleges in each sector.

** Remediation Status:

A = Students not needing remediation.

B = Students completing remediation.

C = Students not completing remediation.

TABLE 5A
POLICY ADMINISTRATION AND REMEDIAL PERFORMANCE BY SECTOR
ELEMENTARY ALGEBRA, 1987-1989

Indicators		County Colleges			State Colleges			Rutgers University			Statewide (1)			Board Standard
		#	%	Range	#	%	Range	#	%	Range	#	%	Range	
Tested	Full-Time	13,629	91	(43-100)	6,342	99	(96-100)	5,384	99	(88-100)	25,812	94	(43-100)	90%
	Part-Time	6,215	77	(32-100)	1,205	86	(56-100)	162	86	(78-100)	7,582	78	(32-100)	90%
Identified for Remediation	Full-Time	7,612	56	(18 - 98)	2,842	45	(24 - 85)	467	9	(7 - 20)	10,928	42	(2 - 98)	N/A
	Part-Time	3,935	63	(14 - 96)	830	69	(43-100)	86	53	(37 - 60)	4,851	64	(14-100)	N/A
Enrolled (any level)	Full-Time	4,242	56	(30-100)	2,548	90	(77 - 97)	308	66	(45-100)	7,105	65	(30-100)	90%
	Part-Time	1,394	35	(4 - 75)	469	57	(27-100)	45	52	(21 - 74)	1,908	39	(4-100)	N/A
Present But Not Enrolled by Fourth Semester	Full-Time	928	12	(0 - 32)	63	2	(0 - 6)	128	27	(0 - 39)	1,119	10	(0 - 39)	<5%
	Part-Time	660	17	(1 - 54)	88	11	(0 - 40)	10	12	(9 - 15)	758	16	(0 - 54)	N/A
Program Completion (by course week)	Full-Time	2,297	54	(28 - 74)	1,889	74	(51 - 92)	266	86	(74-100)	4,455	63	(28-100)	N/A
	Part-Time	901	65	(29-100)	291	62	(47 - 92)	44	98	(86-100)	1,236	65	(29-100)	N/A
Retesting (Reaching Minimum)	Full & Part Time (of those tested)	2,196	93	(69-100)	1,305	99	(98-100)	117	96	(82-100)	3,618	95	(69-100)	90%

(1) Includes NJIT.

TABLE 5B
STUDENT PERFORMANCE OUTCOMES*
ELEMENTARY ALGEBRA, 1987-1989

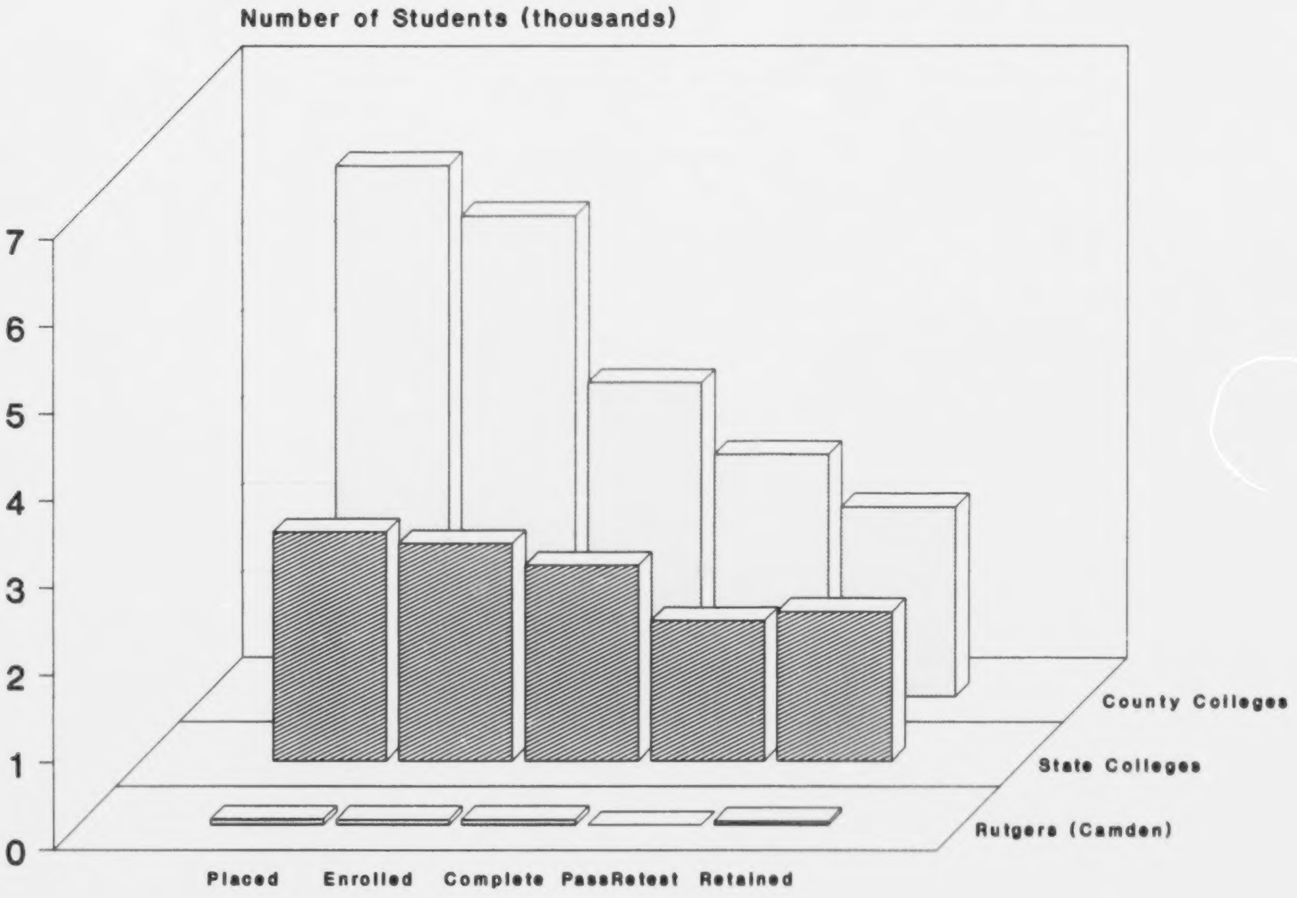
Student Outcome Measures		**County Colleges**			**State Colleges**			**Rutgers University**			**Statewide***			**Board Standard**
		Remediation Status**			Remediation Status**			Remediation Status**			Remediation Status**			
		A	B	C	A	B	C	A	B	C	A	B	C	
Retained in 4th Semester	#	2,614	1,591	1,857	2,778	1,761	294	4,300	147	110	10,048	3,502	2,261	B=A
	%	54	71	38	80	84	47	86	70	79	76	77	42	
% Pass Subsequent College Course		78	76	-	93	90	-	80	72	-	83	81	-	difference A-B<5%
# Credits Attempted		50	44	40	55	51	38	43	40	40	49	48	39	-
# Credits Earned		43	38	31	53	48	33	42	33	39	46	43	33	-
Cumulative GPA		2.49	2.47	2.29	2.70	2.52	1.85	2.70	2.26	2.49	2.64	2.49	2.24	-
% GPA Greater than "C"		81	80	74	88	83	50	85	67	65	85	81	70	difference A-B<15
% Successful Survival		44	56	30	70	70	23	73	47	52	64	63	30	difference A-B<7

* Percentages are weighted averages across colleges in each sector; statewide includes NJIT.

** Remediation Status:

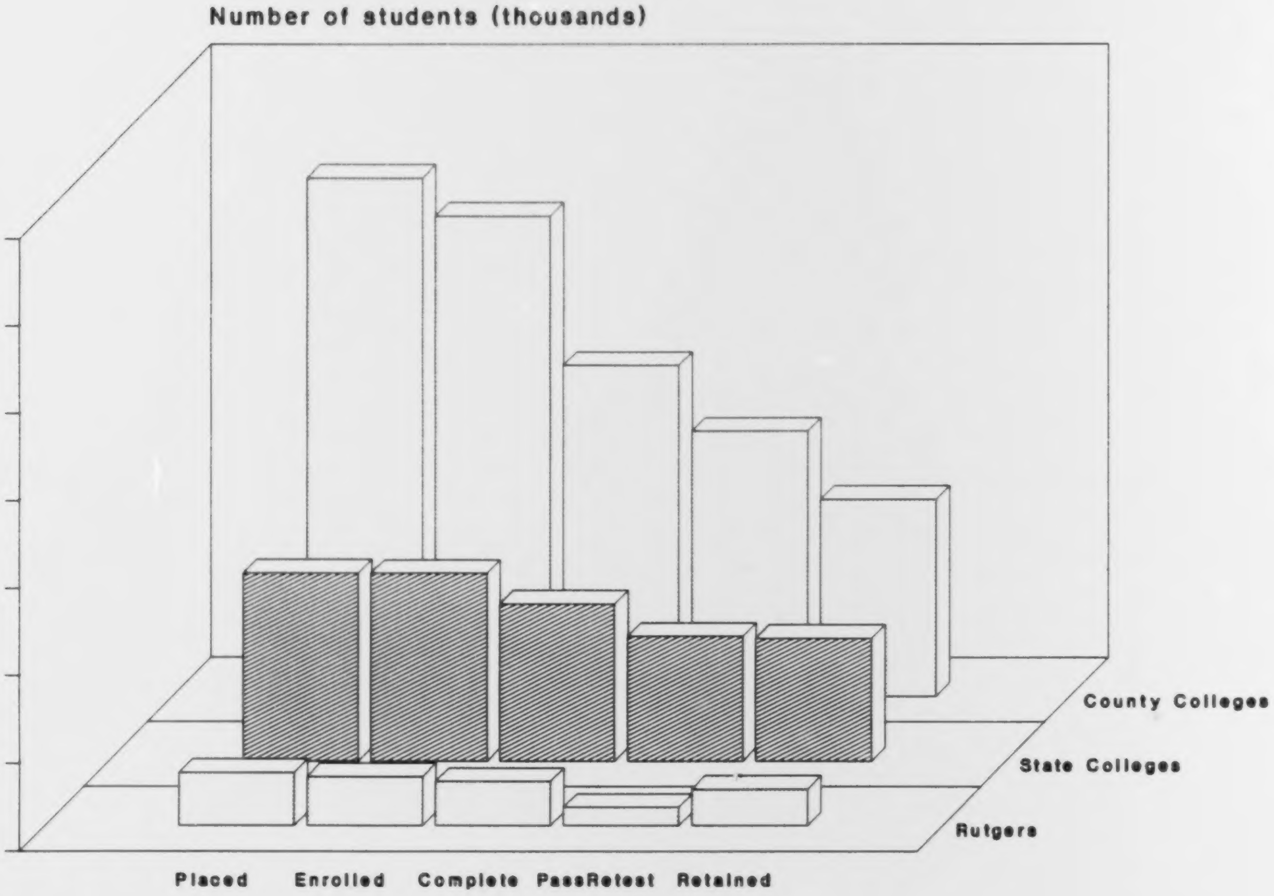
A = Students not needing remediation.
B = Students completing remediation.
C = Students not completing remediation.

Figure 1. Outcome Summary by Sector*
REMEDIAL READING, 1987-1989



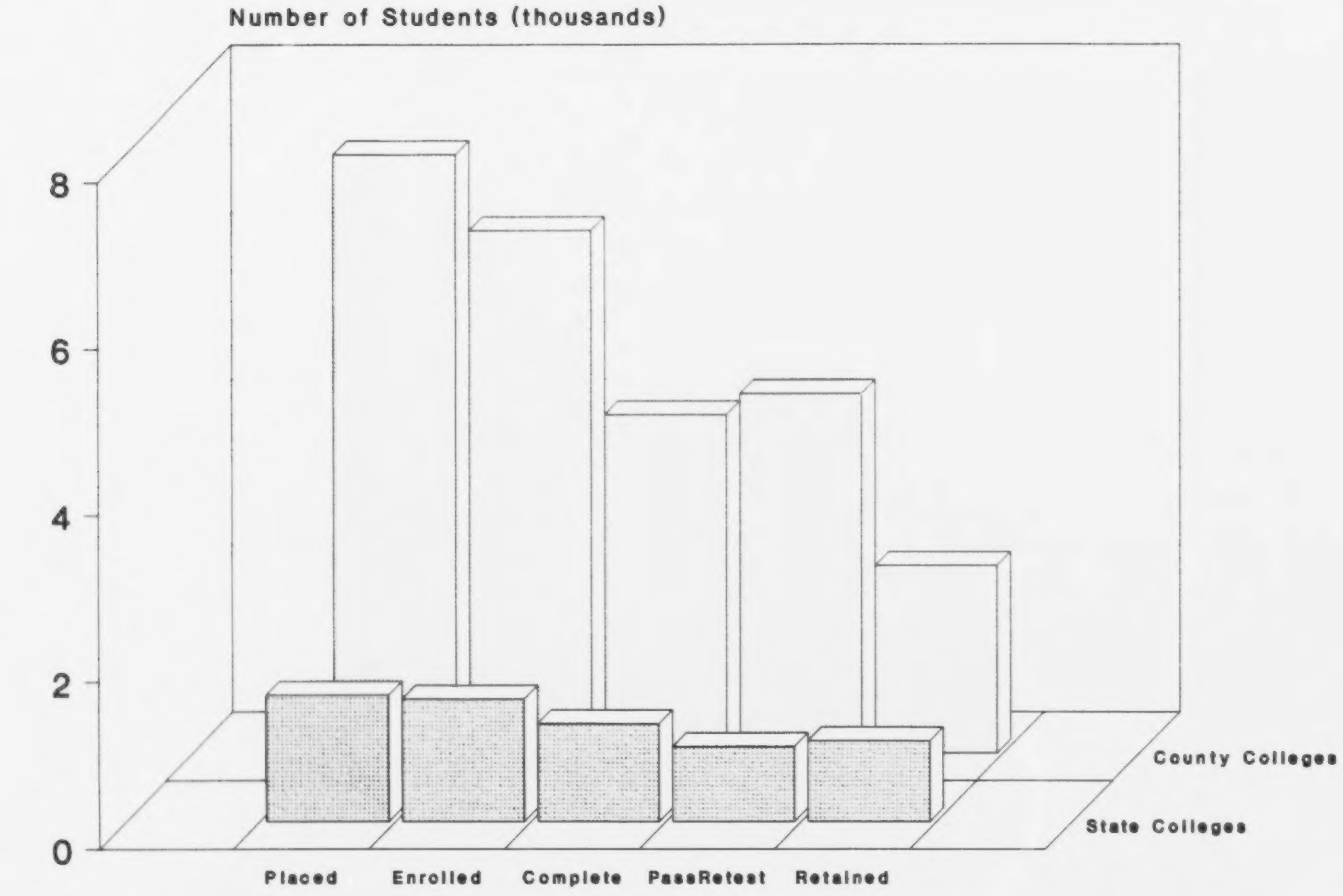
*Full-Time Students Only

Figure 2. Outcome Summary by Sector*
REMEDIAL WRITING, 1987-1989



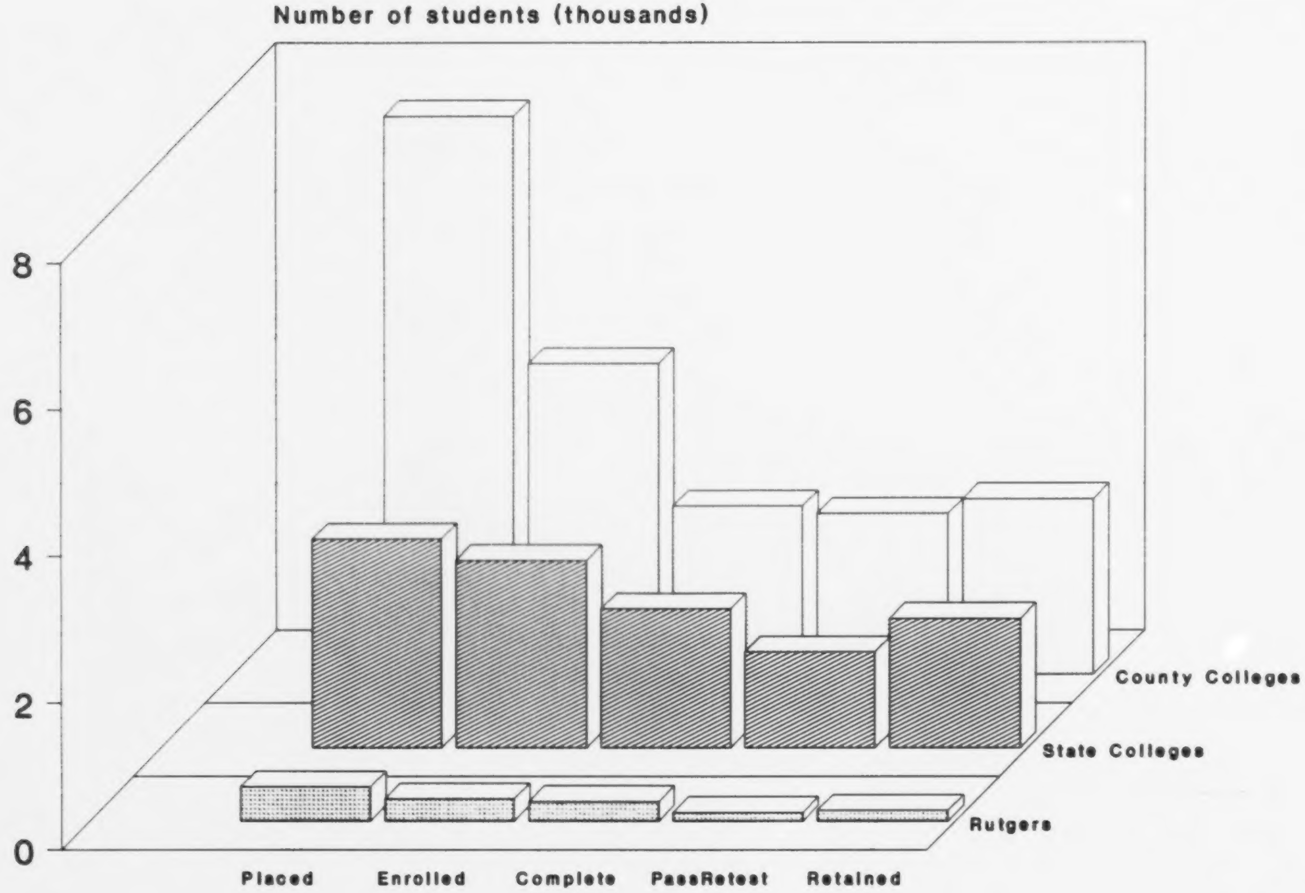
*Full-time students only

Figure 3. Outcome Summary by Sector*
REMEDIAL COMPUTATION, 1987-1989



*Full-time only; no program at Rutgers

Figure 4. Outcome Summary by Sector*
REMEDIAL ALGEBRA, 1987-1989



*Full-time students only

Fig. 5. Reading Outcome Measures
County Colleges

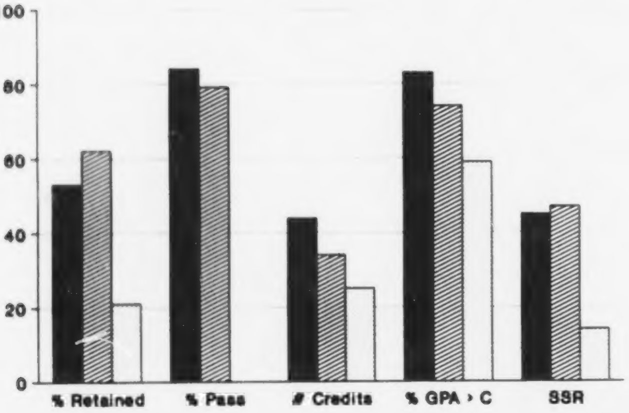


Fig. 6. Writing Outcome Measures
County Colleges

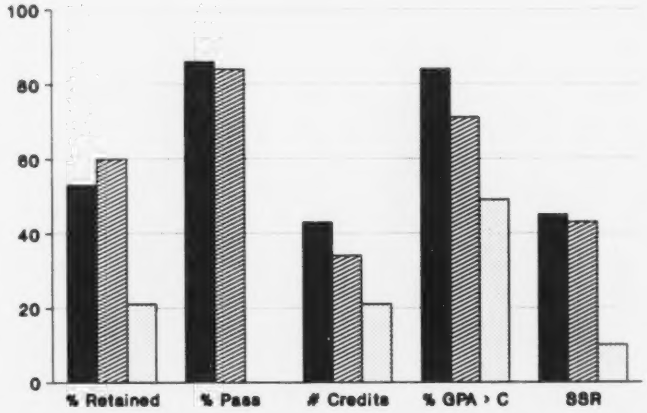


Fig. 7. Computation Outcome Measures
County Colleges

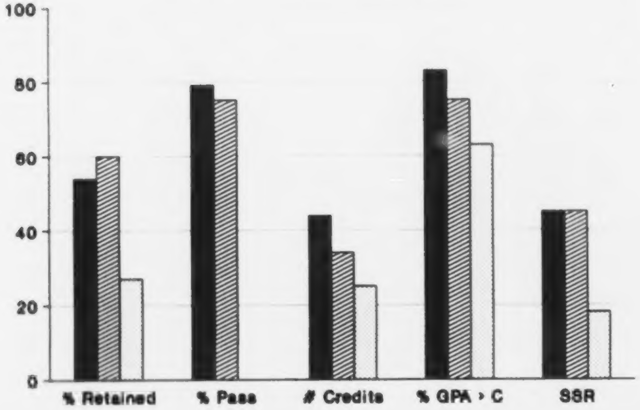
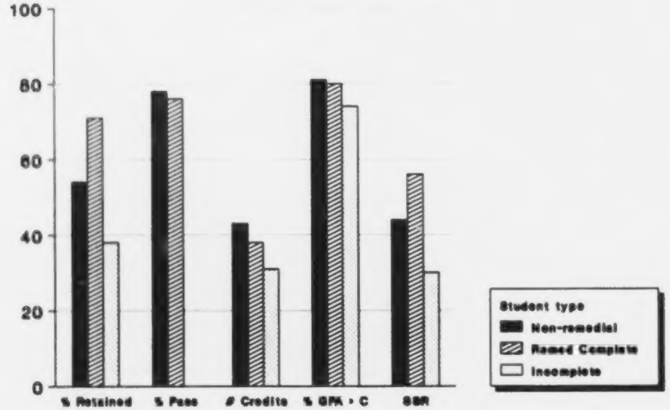


Fig. 8. Algebra Outcome Measures
County Colleges



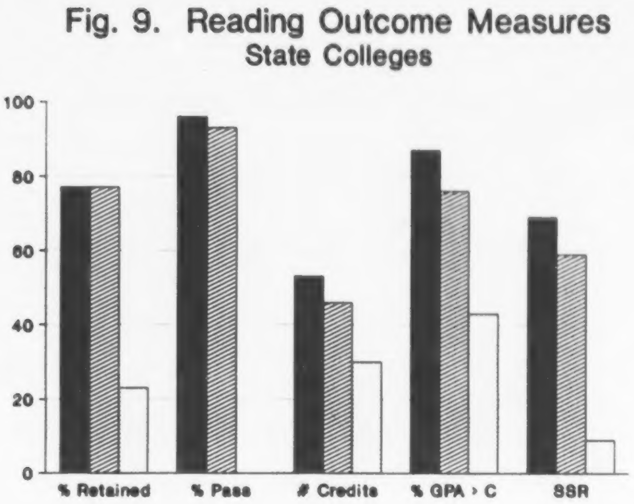


Fig. 9. Reading Outcome Measures
State Colleges

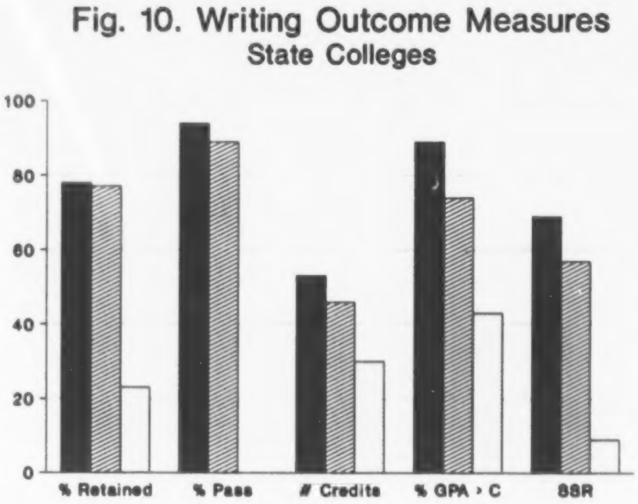


Fig. 10. Writing Outcome Measures
State Colleges

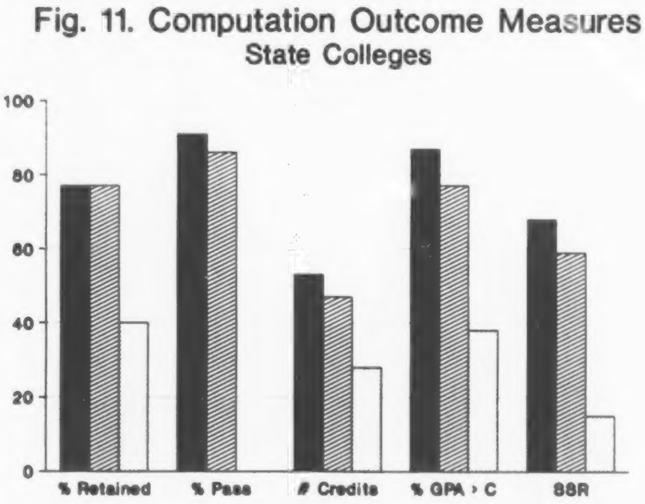


Fig. 11. Computation Outcome Measures
State Colleges

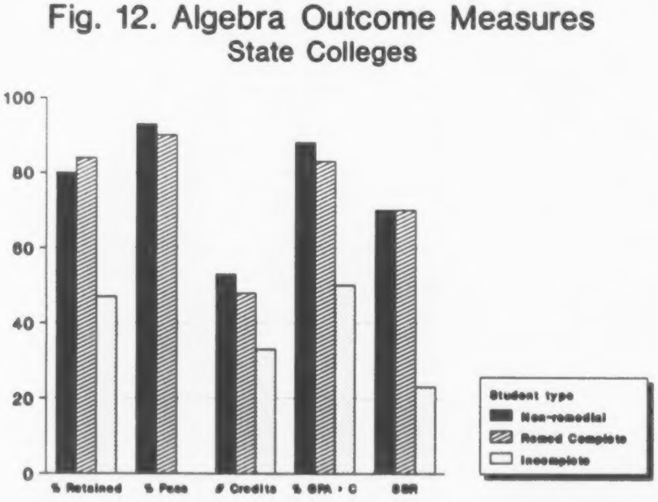


Fig. 12. Algebra Outcome Measures
State Colleges

Fig. 13. Reading Outcome Measures
Rutgers (Camden Campus only)

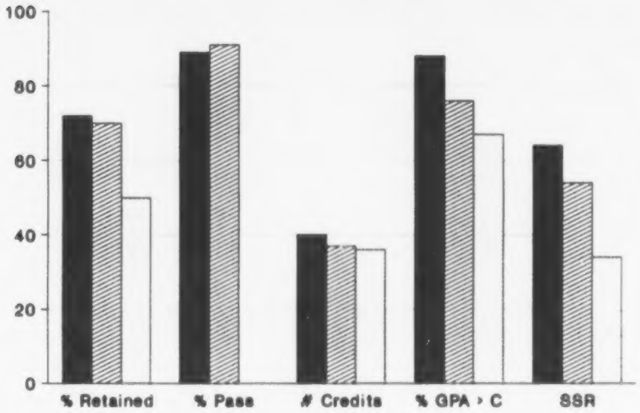


Fig. 14. Writing Outcome Measures
Rutgers University

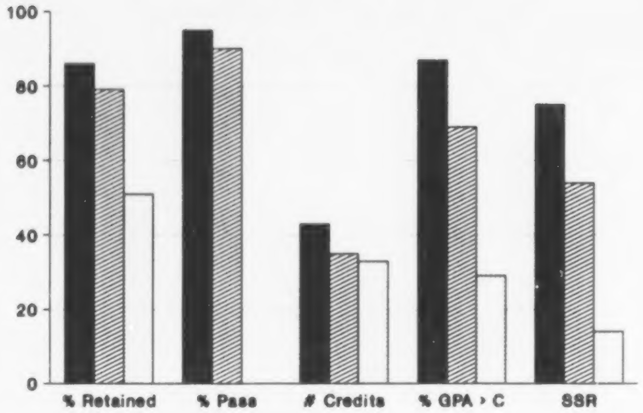
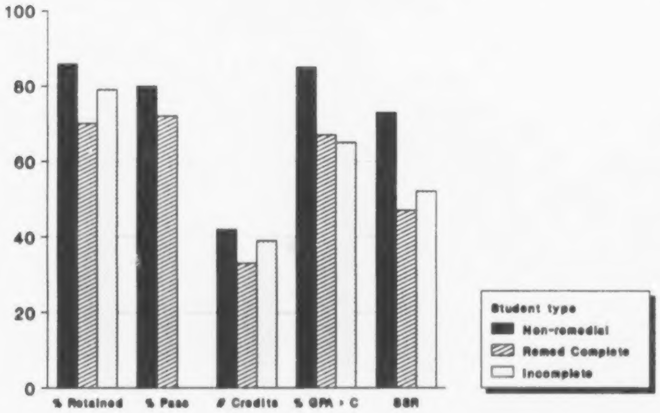


Fig. 15. Algebra Outcome Measures
Rutgers University



INDIVIDUAL PROGRAM EVALUATIONS BY COLLEGE

INTRODUCTION

PROFILE "SHELL"

INTRODUCTION TO COLLEGE PROFILES

In preparing this report for the 1987 cohort, the Council and its Assessment Committee have used the following groups for comparison: (1) students identified as needing and completing remediation, (2) students identified as needing but not completing remediation, and (3) students identified as not needing remediation. A number of indicators were then examined in concert to arrive at a complete and fair assessment of each remedial program. An indicator may be a simple measurement, such as the percentage of students identified as needing remediation who were subsequently enrolled in remedial course work. Alternately, the term may refer to a more complex measurement, such as the difference between the performance of remediated students and that of non-remedial students in their first (subsequent) college-level course. No one indicator can say much about a program's success, but taken together and over time, multiple indicators can reveal a great deal about its effectiveness.

In the past, the Assessment Committee has used such indicators, along with program narratives, to provide descriptions--especially aggregate, sector-wide descriptions--of the remedial programs across the State. However, in its resolution of February 20, 1987, the board of Higher Education called for a more rigorous evaluation of the programs on an individual basis. The resolution reads in part:

> *RESOLVED: That the Chancellor direct the Basic Skills Council to further specify how the multiple outcome indicators can be used to evaluate the effectiveness of remedial programs and to develop a review process which will identify the programs that are effective and those that need to be improved.*

In response to the Board's call, the Committee endeavored to formulate specific judgments about individual programs in each skill area at each institutions rather than simply to tabulate outcome measurements.

To arrive at these judgments, standards and interpretive principles had to be established. One way to set numerical standards would have been to use the averages for the State or for a sector. The Council and its Committee rejected this descriptive approach since it fails to define success in any absolute terms. Moreover, such a relative standard would be based upon the status quo. On the other hand, any other approach to setting standards means adopting criteria that are subjective and therefore open to attack as arbitrary. Yet when subjective criteria express genuine consensus, they are not arbitrary: they define the true goals of a community or institution, and they allow a meaningful measurement of progress towards those goals.

The key word in all this is consensus, and it was with consensus in mind that the Council asked institutions last year to suggest appropriate performance standards as part of their effectiveness submissions. The report which covered the 1984 cohort, employed provisional standards devised within the Committee, while the present report uses the final standard adopted by the Board of Higher Education in April 1990.

A set of standards might seem little more than a numerical checklist against which individual program statistics could be simply tabulated as passing or failing. But such an approach is overly simplistic and would fail to draw the integrated conclusions that the multiple indicator approach can provide. It would also fail to place the outcome statistics within their crucial contexts--within the special circumstances and mission that are described only in an institution's companion text. It is for just this reason that the Committee has interrelated multiple outcomes and has formatted the program profiles under headings that address not statistics per se but the implicit effectiveness questions the statistics are meant to answer. The common format was used for each of the institutional program profiles.

Perhaps more important than either the standard or the profile format, however, is the review process itself by which the Committee drew conclusions about program effectiveness. Above all, the process has been collaborative and self-corrective. Each review began with a close examination of the program's three, two-year cohorts of data and associated narratives. A single Committee member, then prepared a first draft of the college profile for the full Committee's consideration. Assuming a role similar to a dissertation defense committee, the full Committee in turn vigorously challenged the accuracy, thoroughness, and fairness of the draft writer's conclusions. After substantial debate, consensus would emerge, and the draft writer would be charged with making specific revisions to the review document before returning it to the group again for debate and ultimate approval. Several rounds of revision were frequently required for many program reviews. In fact, in a typical full-day meeting, the Committee managed to review only two or three institutional reports.

This process was time-consuming, so much so that the conclusions of this report may be somewhat dated, referring as they do to features that might have improved since the period covered by the cohort under study (1987-1989). Nevertheless, the development of the review methodology stands as an important contribution. Further, the inclusion and review of three student cohorts of data adds a level of confidence to the committee judgments that has never before been attained. The distribution of all data and institutional narratives to each committee member allowed for diligent attention to the details of the program under study. It precluded the dominance of any one person's particular perceptions.

The Council and the Committee wish to stress to the Board that though this form of evaluation, which employes subjective assessment of objective data, is the best mode available, it is certainly not infallible. While most reports from the colleges were thorough and accurate, some were incomplete and still others possessed internal contradictions which could not always be resolved. The conclusions that follow must be understood as reflecting the honest attempt by diligent minds to interpret the institutional reports as received and to recognize in each the signs of programmatic strength as well as the areas that might be improved.

COLLEGE PROFILE SHELL

1987-89

INSTITUTION NAME*

Policy Administration

Percent students tested (both full- and part-time), which met/did not meet standard.

Percent full-time students enrolled in remediation within two semesters, which met/did not meet standard. Percent full-time students present in fourth semester who had not yet begun remediation, which met/did not meet standard.

Percent students retested (full- and part-time combined), which met/did not meet standard.

Remedial Areas

Reading

Placement Criteria. Criteria used, which met/did not meet standard. Students identified for remedial reading (both full- and part-time rates).

Remedial Program Outcomes. Completion rates for full- and part-time students. Percent students attaining the minimum retest level (full- and part-time combined), which met/did not meet standard.

Subsequent Academic Performance. Passing rates for first (subsequent) college-level course in skill area, which met/did not meet standard. Percent students attaining a GPA at or above 2.0, which met/did not meet standard.

Retention rates, which met/did not meet standard. Successful survival rates, which met/did not meet standard.

Concluding (summary) statement.

Writing

Placement Criteria. Criteria used, which met/did not meet standard. Students identified for remedial writing (both full- and part-time rates).

Remedial Program Outcomes. Completion rates for full- and part-time students. Percent students attaining the minimum retest level (full- and part-time combined), which met/did not meet standard.

Subsequent Academic Performance. Passing rates for first (subsequent) college-level course in skill area, which met/did not meet standard. Percent students attaining a GPA at or above 2.0, which met/did not meet standard.

Retention rates, which met/did not meet standard. Successful survival rates, which met/did not meet standard.

**Footnote, if needed.*

Concluding (summary) statement.

Computation

Placement Criteria. Criteria used, which met/did not meet standard. Students identified for remedial computation (both full- and part-time rates).

Remedial Program Outcomes. Completion rates for full- and part-time students. Percent students attaining the minimum retest level (full- and part-time combined), which met/did not meet standard.

Subsequent Academic Performance. Passing rates for first (subsequent) college-level course in skill area, which met/did not meet standard. Percent students attaining a GPA at or above 2.0, which met/did not meet standard.

Retention rates, which met/did not meet standard. Successful survival rates, which met/did not meet standard.

Concluding (summary) statement.

Elementary Algebra

Placement Criteria. Criteria used, which met/did not meet standard. Students identified for remedial algebra (both full- and part-time rates). Institution's policy concerning elementary algebra.

Remedial Program Outcomes. Completion rates for full- and part-time students. Percent students attaining the minimum retest level (full- and part-time combined), which met/did not meet standard.

Subsequent Academic Performance. Passing rates for first (subsequent) college-level course in skill area, which met/did not meet standard. Percent students attaining a GPA at or above 2.0, which met/did not meet standard.

Retention rates, which met/did not meet standard. Successful survival rates, which met/did not meet standard.

Concluding (summary) statement.

Overview

Strengths

Delineation of strengths.

Areas of Concern

Delineation of weaknesses.

Additional Suggestions For Further Inquiry

Additional suggestions, if any (otherwise omit heading).

ATLANTIC COMMUNITY COLLEGE

Policy Administration

Atlantic Community College has a long history of responding late and (or) incompletely to basic skills reporting deadlines, and this serious shortcoming hindered the assessment of its remedial efforts. Since the previous round of review, in which similar reporting inadequacies were highlighted, the institution has taken some faltering steps to provide some missing information (e.g., it has attempted to extrapolate certain older data from more recent outcomes). But in reality the undesirable pattern persists, despite correspondence and assurances to the contrary.

The college's request (in February 1990) for a waiver of the back reporting requirements was referred to the Basic Skills Council's Assessment Advisory Committee, and the body unanimously recommended that the requirements not be waived. At the time of this writing (March 1991), the college still owed nearly the entire 1985(-87) and 1986(-88) reports, originally due in 1987 and 1988 respectively, plus portions of the 1989 Annual Basic Skills Questionnaire (due June 1990) and 1988(-90) report (due August 1990). The present review, therefore, necessarily stresses the 1987(-89) data.

In 1987, Atlantic Community College tested 87-89% of its full-time and 42% of its part-time students requiring placement testing. The testing rates fell short of the Board's minimum expectation (the latter by 48 percentage points or by over 349 part-time students) and reflected a significant decline from the previous round of review. The college reported that "efforts to identify students who needed to be tested were severely hampered by the lack of technical support from the computer area."

Further, in none of its program areas did the institution meet the minimum requirement for enrolling identified, full-time students in the needed remediation within two semesters. The reported two-semester enrollment percentages for full-time students were 80% in reading/writing, 77% in computation, and 42% in elementary algebra. By the fourth semester, the proportions of identified, full-time students who were present but had not enrolled in remedial courses were only 2 to 3%, which met the standard.

The institution's retest "capture" rate was difficult to ascertain. Presumably all remedial program completers (in reading/writing and computation) were retested, which if true met the standard; however, the college reported retest data for 6 to 26 more students (depending on skill area) than reportedly completed remediation in the four-semester period. The report explained that the data "include a few students who took the retest but did not complete remediation," contrary to the guidelines of the Basic Skills Council. For future reporting purposes, retest data should be confined to the students who satisfied all remedial requirements in the skill areas.

Only partial data were provided for elementary algebra despite the existence of such a program; thus the institution did not fulfill the Council's reporting guidelines. The college "does not designate elementary algebra as a remedial/developmental course." To similar criticism in the previous round of review, the college responded:

> "A clarification is needed on this point. Elementary algebra is required of all students and meets the general education requirement in mathematics for AAS degrees. However,...elementary algebra is not transferable and does not meet the general education requirement in mathematics for the AA. and AS degrees. Consequently, although ACC does not list elementary algebra as a remedial/developmental course, it is required of all students obtaining a degree."

This and other statements implied that the institution was awarding graduation credits for remedial-content courses, in violation of long-standing policy of the Board of Higher Education. In its responses to both the 1987 and 1988 annual questionnaires, the institution indicated "yes" to the question, "Are graduation credits awarded for remedial or developmental courses?" and included the following comment:

> "In Fall 1982, ACC adopted a policy which excludes remedial/developmental credits from the first sixty (60) credits a student can apply toward the degree. Beyond the initial 60 non-remedial credits, a student can apply remedial credits in the free elective category."

Whether the above policy pertained to all remedial areas or just to elementary algebra was unclear from the documentation provided.

Remedial Areas

Reading/Writing

Placement Criteria. Atlantic Community College offered a two-level remedial sequence combining reading and writing instruction. Both the NJCBSPT-RC and -SS, as well as in-house evaluation of the Essay, were used to determine placement in the sequence. Cut-scores of 164 were used on each of the multiple-choice tests, which met the standards and were above them by three scaled-score points. Of the students tested, 44% of the full-time and 56% of the part-time students were identified for remediation in reading/writing.

Remedial Program Outcomes. Of the students enrolled in reading/writing remediation, 58% of the full-time and 57% of the part-time students had successfully completed the program by the fourth semester. Sixty-two percent of the students for whom retest results were reported attained the college's minimum score on the NJCBSPT-RC or were within an SEM of that minimum score; similarly, only 56% attained (or fell within an SEM of) the college's minimum level on the NJCBSPT-SS. These low retest results did not meet the standard and were cause for concern. Although the above retest results reportedly included 13 and 26 students respectively who did not complete remediation (contrary to the Council's reporting guidelines), exclusion of these students would not have altered the general finding.

Subsequent Academic Performance. The first (subsequent) college-level course passing rate (in Communications 101) for those who completed the remedial program was 80%; and for the non-remedial students in the same course the corresponding rate was 89%. The nine percentage-point difference between the two rates did not meet the standard. On the broader academic indicator, 84% of the remediated students attained a GPA of "C" or better, compared to 89% of the non-remedial students; the five-point differential met the standard.

Completers of remediation returned in the fourth semester at the rate of 55%, as compared to 52% for the non-remedial comparison group. The difference in favor of the remediated students met the standard. SSR's for both groups of students were identical at 46% (which met the standard).

In summary, positive indications for the remedial reading/writing sequence included the GPA, retention and SSR comparisons. However, the especially weak retest results and the below-standard performance in the first (subsequent) college-level course raised questions about the efficacy of the program.

Computation

Placement Criteria. For remedial placement in computation, Atlantic Community College used a cut-score of 164 on the NJCBSPT-MC, which missed the standard by one scaled-score point. [The cut-score remained the same in 1988 and 1989.] Of the students tested, 53% of the full-time and 55% of the part-time students were identified for remedial instruction.

Remedial Program Outcomes. Of the students who began computation, 55% of the full-time and 69% of the part-time enrollees had successfully completed the program by the fourth semester. Ninety-six percent of the students for whom retest results were provided attained the college's minimum retest level (NJCBSPT-MC 165) or fell within an SEM of that minimum, which met the standard. Although the above retest results reportedly included six students who did not actually satisfy the remedial requirements (contrary to the Council's reporting guidelines), exclusion of these students would not have significantly altered the result.

Subsequent Academic Performance. Computation-remediated students passed their first (subsequent) course (Elementary Algebra) at the rate of 88%, compared to 91% for the non-remedial comparison group. The three percentage-point differential met the standard. A cumulative GPA of "C" or greater was attained by 84% of those who completed the remedial program and by 94% of those who were not identified for computation; the ten percentage-point difference met the standard.

The fourth-semester return rate for remediated students was 65%, as compared to only 51% for the non-remedial students; the difference in favor of remediated students met the standard. The SSR for completers of the remedial program was 55%, and for their non-remedial counterparts, 48%; the difference in SSR's met the standard and was a reversal of the typical pattern.

In conclusion, student outcomes for the computation program appeared uniformly positive, and the retest results were especially strong. A favorable interpretation of this pattern, however, was partly obscured by the unsatisfactory placement criterion.

Elementary Algebra

At the time of this report, scores on the NJCBSPT-EA were used to determine placement in an elementary algebra course. However, the college did not designate elementary algebra as a remedial course and provided only a partial account of the student outcomes and subsequent follow up. Students in the AAS program were required to complete Introduction to Algebra II (Math 104) or Elementary Algebra (Math 106) "to fulfill the math requirement for graduation." Students in AA and AS programs were required to complete "an upper-level math course (Math 110 or Math 125) as the math requirement for the degree," with elementary algebra proficiency a prerequisite to enrolling in the upper-level course. In response to the Board's recent action aimed at tightening the "algebra-as-a-basic-skill" requirement, the college has since written that it

> "should now fall into the status of already in compliance regarding the Board's new policy governing mathematics remediation. The college's Curriculum Committee acted last year [i.e., 1989-90] to classify elementary algebra as a remedial subject and to require such remediation of all students falling below Atlantic's placement standards...[This action] is now college policy."

Note that in 1987(-89) only about half of the tested students were actually followed up and reported on by the college, and it was unclear for which students the reported algebra data pertained. Consequently, these data were not analyzed in detail. In the future, data must be provided on all tested students in accordance with the Council's guidelines. The institution's practice of awarding graduation credits for elementary algebra was stressed as an additional area of concern.

Overview

Strengths

By the fourth semester, few identified, full-time students who were present at the college had not yet begun their needed remedial course work.

The institution's 1987(-89) report included retest data for reading/writing and computation programs, an improvement since the previous round of review.

In the reading/writing area, the GPA, retention and SSR comparisons pointed in a positive direction.

Student outcomes for the computation program appeared uniformly positive, and the retest results were especially strong. A favorable interpretation of this pattern, however, was partly obscured by the low placement criterion.

Areas of Concern

Atlantic Community College has a long history of missing or inadequate basic skills reports, a pattern which continues despite assurances to the contrary. The college's failure to provide its 1985(-87) and 1986(-88) reports (originally due in 1987 and 1988 respectively) and portions of more recent reports seriously hampered the review of this college's remedial efforts over time. Further, certain key data were not prepared in accordance with the Basic Skills Council's reporting guidelines. For example, retest data were not confined to the students who satisfied all remedial requirements in the skill areas. These chronic violations require direct and immediate attention.

Only partial 1987(-89) data were provided for elementary algebra despite the existence of such a program. The college did not designate elementary algebra as a remedial course. On the issue of "algebra-as-a-basic-skill," the institution has since responded (in November 1990) that it is "in compliance regarding the Board's new policy governing mathematics remediation." All required data on elementary algebra should be submitted in accordance with guidelines of the Basic Skills Council.

The institution has been awarding graduation credits for remedial-content courses, in violation of Board of Higher Education policy. Whether this has been the case for all remedial areas or just elementary algebra was unclear from the documentation provided. A full disclosure of policies and procedures surrounding the issue of credits awarded for remediation is needed.

The institution's placement testing and two-semester remedial enrollment rates fell short of the Board's minimum requirements (in all skill areas) and represented a significant decline since the previous round of review. In 1987, the part-time testing rate missed the minimum standard by 48 percentage points or by over 349 part-time students. Atlantic Community College must bring its testing and enrollment percentages in line with Board requirements.

In the reading/writing area, the weak retest results and first (subsequent) college-level course performance comparison raised questions about the efficacy of the program.

In computation, the placement cut-score on the NJCBSPT-MC fell below the recommended minimum level. This likely resulted in the under-identification (and thus the under-serving) of students. As an additional consequence, the "non-remedial" comparison group used in the analysis might have been compromised.

BERGEN COMMUNITY COLLEGE

Policy Administration

Bergen Community College tested nearly 100% of the full and part-time cohorts from 1985, 1986, and 1987, which met the 90% standard.

For the 1987 cohort, 95% of the full-time identified students in the reading area enrolled in remediation within two semesters, which met the standard. In the three other areas (writing, 89%; computation, 84%; and algebra, 67%), the 90% enrollment standard was not met. In writing, the standard was missed by one percentage point (data from the previous two cohorts did indicate enrollment percentages over 90%). However, in computation and algebra, while data from the 1987 cohort showed improvement, the college has consistently been unable to meet the 90% standard. The college indicated in its narrative that not all students identified for algebra had to enroll since algebra remediation is contingent upon major. Students may eventually matriculate in majors which do not require algebra and are then reclassified as not needing remediation. Algebra was the one skill area where the percentage of students present in the fourth semester who had not yet begun remediation exceeded the 5% standard (16%). This outcome is difficult to interpret because of the shifting base number of students "identified" for algebra via Bergen's policy on enrollment.

The percentage of students retested ranged from 86% in writing to 93% in computation. The 95% retest standard was not met in any of the remedial areas.

Remedial Areas

Reading/Writing

Placement Criteria. The college has been using an average of below 161 on both NJCBSPT-SS and RC (which met the standard) to place students in the English Skills Program which provides integrated instruction in reading and writing. (In addition the college provided a one-hour, non-credit supplementary course for students with scores between 161 and 164 who enrolled in credit-bearing English Composition. This group is not counted in the remedial category for this analysis.) In the Fall 1987, 45% of the full-time and 35% of the part-time students were identified for remediation.

Remedial Program Outcomes. Seventy-five percent of the full-time and 69% of the part-time students enrolled in remediation completed all requirements by the end of the spring 1989 semester.

Sixty-five percent of the students who successfully completed course work met the college's minimum or were within one SEM of it on the retest, which did not meet the 90% standard.

Subsequent Academic Performance. Full-time remediated students passed English composition at a slightly higher rate (94% vs. 92%) than non-remedial students, which met the standard and was a reversal of the typical pattern in which remediation completed students display slightly lower passing rates.

The difference in the cumulative GPA's at or above a 2.0 for the remediated and non-remedial students was 14 percentage points. This gap met the standard of 15 percentage points and was an improvement over the 18 percentage point gap reported for the 1986 and 1985 cohorts.

The retention standard was met for all three cohorts. The retention rate for remediated students (59%) has consistently exceeded that of the non-remedial students (44%).

Similarly, for all three cohorts, the difference in the SSR (42% for students completing remediation vs. 37% for non-remedial students) met the standard, and was also a reversal of the typical pattern.

The Reading/Writing program displayed generally positive results. Seventy-five percent of the full-time students who enrolled successfully completed their requirements. Retesting was the one area where the program did not met the standard. While the college just missed the capture rate standard for retesting (92% vs. the standard of 95%), nevertheless a large number (590) of scores was reported. The discrepancy between the weak retest results and success on subsequent outcome indicators should be investigated by the college.

Writing (combined with Reading above)

Computation

Placement Criteria. In 1987, a cut score of below 168 (which met the standard) identified students for remediation. Sixty-four percent of the full-time and 60% of the part-time students were identified for remediation.

Remedial Program Outcomes. Seventy-two percent of the full- and 74% of the part-time students who enrolled in remediation successfully completed their course work. Seventy-six percent of the students who successfully completed course work reached the college's minimum or were within one SEM of it on the retest. This did not meet the 90% standard.

Subsequent Academic Performance. Students who completed remediation passed their first (subsequent) college-level course at a rate (87%) which was seven percentage points below that (94%) of the non-remedial students. This gap did not meet the standard of no more than five percentage points.

Seventy-five percent of the remediated students had GPA's at or above a 2.0 as compared with 85% of the non-remedial students. This difference met the standard.

Remediated students returned in the fourth semester at a higher rate (60% vs. 46%) than non-remedial students. Therefore, the retention standard was met. Similarly, the SSR for the remediated students exceeded that of the non-remedial students (45% vs. 39%) easily meeting the standard, and reversing the usual pattern in which non-remedial students have the higher SSR's.

In summary, three out of four of the subsequent academic performance standards were met, indicating mixed results. Performance in the first college-level course was below the standard as were the retesting results.

Elementary Algebra

Placement Criteria. In 1987, the college used a cut score of 177 on NJCBSPT-EA to identify students for remediation. This score is substantially (ten scaled score points) higher than the standard of 167. Consequently eighty-six percent of the full- and part-time students were identified for remediation. However, as stated in the narrative, "not all of the students shown as deficient in algebra were required to remove this deficiency."

Remedial Program Outcomes. Sixty-three percent of the full-time and 66% of part-time students enrolled in remediation completed their course work by the spring 1989. Sixty-nine percent of the students who completed remedial course work reached the college's minimum or were within one SEM of it on the retest. This did not meet the 90% standard.

Subsequent Academic Performance. Students who completed remediation passed their first college-level mathematics courses at a rate (85%) which was nine percentage points below that (94%) of the non-remedial students. This did not meet the standard of five percentage points or less.

Eighty-three percent of the remediated students had GPA's of 2.0 or above as compared with 84% of the non-remedial students. This difference easily met the 15 percentage point standard.

The fourth semester retention rate for the remediated students (71%) was substantially higher than that reported for the non-remedial students (41%) easily meeting the standard. The SSR for the remediated group (59%) was greater than the SSR reported for the non-remedial students (34%). Again, this met the standard and was a reversal of the typical pattern in which non-remedial students display the higher SSR's.

In summary, the results for elementary algebra were mixed. The algebra program met all but two standards: retesting and performance in first college-level course. The latter two standards were missed by fairly wide margins which is cause for concern.

Overview

Strengths

The college does an excellent job administering its testing program approaching 100% testing rates for the full- and part-time students.

The 90% enrollment within two semesters standard was met in reading/writing.

Across all areas, the remediated students displayed higher retention rates than non-remedial students.

In reading/writing all four subsequent academic performance standards were met.

In computation and algebra, three out of four of the subsequent academic performance standards were met.

Areas of Concern

The college continued to have difficulty meeting the 90% two-semester enrollment standard in computation and algebra. This shortcoming was noted in the report on the 1984-86 cohort as well but the college did not respond.

The college did not meet the standard of retesting 95% of students completing course work in any of the remedial areas.

In the areas of reading/writing, computation, and algebra the standard of 90% of the students reaching the minimum on the retest was not met.

BROOKDALE COMMUNITY COLLEGE*

Policy Administration

For at least five consecutive years, Brookdale has consistently tested over 90% of its full-time students requiring placement testing (93% in 1987), which met the Board's minimum testing expectation. However, its testing rate for part-time students dropped from 97% in 1985 to only 89% and 71% respectively in 1986 and 1987. The rate in 1987 for part-time students missed the minimum standard by 19 percentage points (or by approximately 155 students). [Similarly, the part-time testing rate in 1988 was only 75%, which missed the standard by 15 percentage points.] In the college's own words, an identified concern was the "improved placement of matriculating part-time students and non-matriculating students approaching their twelfth credit."

Because of data discrepancies between Brookdale's response to the 1987(-89) Annual Questionnaire and its corresponding report on remedial program effectiveness (which were acknowledged by the institution), it was difficult to resolve inconsistencies in the reported identification and enrollment rates. According to data provided on the Annual Questionnaire, Brookdale enrolled the following percentages of identified, full-time students in remediation within two semesters: 92% in reading, 93% in writing, 63% in computation and 30% in elementary algebra. The rates for reading and writing met the standard but those for the mathematics areas did not.

The two-semester enrollment rate for elementary algebra appeared worse than it likely was on account of the following: (a) all students who fell below the placement criteria were identified for elementary algebra, even though choice of curriculum ultimately determined whether such a student was required to take the remedial course; and (b) data were missing on the students who were placed directly into remedial algebra without having to complete computation, contrary to reporting requirements of the Basic Skills Council. Nevertheless, it should be pointed out that the low enrollment rates in the mathematics areas were pointed out in the previous cycle of review. The college indicated that they "are uncovering gaps in our internal process of recording test data on our student information system, and we are working to correct the procedure...."

By the fourth semester only 5% of the full-time, identified students in reading and 4% of those identified for remedial writing had yet to begin the necessary intervention, which met the standard in both areas. On the other hand, 11% (computation) and 28% (elementary algebra) of the full-time students identified for remedial mathematics had yet to begin their remedial course work by the fourth semester, which did not meet the standard.

Brookdale reported retest data for the students who satisfied all remedial requirements in a skill area, with the following "capture" rates: 96% in reading, 96% in writing, 97% in computation and 32% in elementary algebra. The first three retesting rates met the standard but that for algebra did not. The college reported

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**Brookdale uses a unique "non-punitive" grading system (2.0 to 4.0) which is reflective of its college-wide educational philosophy. A "D" (or 1.0) is not considered a passing grade and is not assigned. To pass a course a student must earn a grade of at least a "C." Non-passing grades are not numerically reflected (as 1.0's or 0.0's) in the student's GPA as they would be at other institutions. Therefore, the GPA-based indicators (e.g., percent at or above "C" and SSR) are not interpretable within the committee's frame of reference. Thus, while the college fulfilled the reporting guidelines calling for data, these data could not be used in this evaluation.*

retest information for only 76 of the 236 students who completed elementary algebra remediation via course work. The college's report stated that "the post-testing of *all* students successfully passing elementary algebra started with the Fall 1988 cohort."

Remedial Areas

Reading

Placement Criteria. Brookdale used a cut-score of 164 on the NJCBSPT-RC (which met the standard and was above it by three scaled-score points), with verification "as needed" using the Nelson-Denny. As a result, 44% of the full-time and 40% of the part-time test-takers were identified for reading remediation.

Remedial Program Outcomes. Seventy-eight percent of full-time enrollees and 68% of part-time enrollees successfully satisfied all remedial requirements in the skill area in four semesters. Only 61% of the students who successfully completed remediation in reading attained the college's minimum cut-score on the retest or scored within one SEM of it, which missed the standard by a wide margin.

Subsequent Academic Performance. Seventy-one percent of the remediated students and 78% of their non-remedial counterparts passed the first (subsequent) college-level courses. The seven percentage-point difference missed the standard by two percentage points and represented a decline in performance since the previous cycle of review. In contrast, the 1985(-87) and 1986(-88) results revealed passing rates for the remediated students that nearly equaled or surpassed those for the non-remedial students.

In 1987(-89) remediated students as a group had a retention rate of 63%, 11 percentage-points higher than the rate for non-remedial students (which met the standard). Due to its special grading practices, Brookdale's GPA and SSR data could not be used in this evaluation (see footnote).

In summary, despite the lack of interpretable GPA and SSR data and even in view of the favorable retention results, the negative retesting and first college-level course outcomes suggested that the students were not given the skills they needed to perform adequately at the college level.

Writing

Placement Criteria. The placement criterion used was a score of 162 on the NJCBSPT-SS, which met the standard. In addition, verification "as needed" was conducted using local diagnostic essay(s). In 1987, 28% of the full-time and 34% of the part-time test-takers were identified for remedial writing.

Remedial Program Outcomes. Seventy-nine percent of full-time and 77% of part-time students who enrolled in writing remediation successfully completed the program in four semesters. On the retest, 68% of the students who successfully satisfied all remedial writing requirements attained the college's cut-score or fell within an SEM of it, which missed the standard by a wide margin.

Subsequent Academic Performance. Seventy-four percent of remediated and 82% of non-remedial students passed the first (subsequent) English composition course. The difference of eight percentage points in the two passing rates did not meet the standard on this indicator.

Remediated students returned in the fourth semester at a rate of 62%, as compared to 52% rate for the non-remedial comparison group. The ten percentage-point difference in favor of remediated students met the standard. Brookdale's GPA and SSR data could not be used in this evaluation (see footnote).

In summary, the lack of interpretable GPA and SSR information added to the difficulty in assessing the program. Based on the available indicators, there was reason to question whether remediated students were given the skills needed in order to perform adequately in college-level courses. The retention comparison, however, was positive.

Math Computation

Placement Criteria. Brookdale used a cut-score of 167 on the NJCBSPT-MC for placement (which met the standard and was above it by two scaled-score points), with verification "as needed" using local tests. In 1987, 50% of the full-time and 56% of the part-time students were identified for remediation in this skill area.

Remedial Program Outcomes. Sixty-nine percent of the full-time and 70% of the part-time students enrolled in the remedial program successfully completed it by the fourth semester. Of these successful completers, 95% attained the college's cut-score on the retest or scored within an SEM of it, which met the standard.

Subsequent Academic Performance. Thirty-seven percent of remediated students and 53% of the non-remedial students passed the subsequent college-level course. While recognizing the difficulty of finding appropriate college-level courses in this area which do not also require competency in algebra, the difference of 16 percentage points in passing rates did not meet the standard. A passing rate of 37%, in any case, is low and merits investigation.

Students who completed their remediation in computation returned in the fourth semester at a higher rate (68%) than those who were not identified for remediation (54%), which met the standard. Brookdale's GPA and SSR data could not be used in this evaluation (see footnote).

The pattern of outcomes, therefore, was mixed. The weak performance in the first (subsequent) follow-up course detracted from the favorable retest and retention results.

Elementary Algebra

Placement Criteria. Brookdale's placement cutoff score of 171 on the NJCBSPT-EA met the standard and was above it by four scaled-score points. In addition, verification "as needed" was conducted using local tests. Sixty-nine percent of the full-time and 63% of the part-time test-takers were identified for remediation. Note, however, that all students who fell below the placement criteria were identified by the institution, even though choice of curriculum ultimately determined whether such a student was required to take elementary algebra.

In response to the Board's recent action aimed at tightening the "algebra-as-a-basic-skill" requirement, the college has since indicated that it is "preparing to include elementary algebra into its Basic Skills program for all students who fall below the cut-off scores....[A] phase-in plan [is being drafted] to bring the college into compliance by Fall 1992."

Remedial Program Outcomes. Fifty-three percent of the full-time and 51% of the part-time students who enrolled in elementary algebra successfully completed the program by the fourth semester. Ninety-nine percent of students successfully completing remediation (and for whom retest results were available) attained the college's cut-score on the retest or fell within an SEM of it, which met the standard. However, the low retest "capture" rate (only 76 out of 236 students) made it difficult to fully interpret these results.

Subsequent Academic Performance. Fifty-two percent of remediated students and 62% of the non-remedial students passed their first (subsequent) college-level course; the ten percentage-point difference did not meet the standard.

As in the other skill areas, the retention rate for remediated students (78%) exceeded that for the non-remedial comparison group (52%) by a favorably wide margin, which met the standard. Brookdale's GPA and SSR data could not be used in this evaluation (see footnote).

In conclusion, the pattern of outcomes for elementary algebra was mixed across the available indicators, with the weak first (subsequent) follow-up course performance detracting from the seemingly favorable retest and retention results. The retest results were difficult to interpret on account of the low retest "capture" rate.

Overview

Strengths

Brookdale has consistently met the minimum placement testing expectation for full-time students over at least five consecutive years. It also reportedly enrolled over 90% of those needing remediation in reading and writing within two semesters.

The institution's 1987(-89) report included nearly all required retest data for reading, writing and computation programs, an improvement since the previous round of review.

In all skill areas, retention rates for the remediation-completed students exceeded those for the respective non-remedial comparison groups by a wide margin. A similar pattern was pointed out in the previous cycle of review.

Retest results for the students who completed computation and elementary algebra programs were favorable (albeit difficult to fully interpret in the case of the latter area).

Areas of Concern

Brookdale needs to investigate the reasons for the decline in the placement testing rate for part-time students. The rate in 1987 for part-time students missed the minimum standard by 19 percentage points (or by approximately 155 students). The college itself identified as a concern "improved placement of matriculating part-time students and non-matriculating students approaching their twelfth credit."

Data discrepancies between the institution's responses to the Annual Questionnaire and its reports on remedial program effectiveness added to the difficulty in conducting the review. Further, data were missing on the students who were placed directly into remedial algebra without having to complete computation, contrary to reporting requirements of the Basic Skills Council.

As was pointed out in the previous cycle of review, two-semester and four-semester enrollment rates in the remedial mathematics area are in need of improvement.

Completers of remediation in all skill areas did not pass their first (subsequent) college-level courses at rates comparable to the non-remedial students. This suggested that the students were not given the skills they needed to perform adequately at the college level. Further, the low first (subsequent) college-level course passing rate for completers of computation remediation (37%) merits investigation. The institution itself identified the need for "a continued analysis of performance in subsequent college-level courses of our students who successfully pass developmental courses."

The lack of interpretable GPA and SSR information made interpretation of the other outcomes difficult. We invite representatives of Brookdale to meet/work with the Council and its Assessment Advisory Committee to help develop appropriate academic performance standards. However, based on the available evidence, it would appear that the reading and writing programs need attention.

The low "capture" rate for retesting in elementary algebra, contrary to Board requirements, made it difficult to interpret the algebra retest results. The college's report stated that "the post-testing of *all* students successfully passing elementary algebra started with the Fall 1988 cohort."

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BURLINGTON COUNTY COLLEGE

Policy Administration

Burlington County College tested 98% of its full-time students and 92% of its part-time students. It has consistently met the 90% standard for testing full- and part-time students over the last three cohorts. For the '87 cohort, however, Burlington's testing percentage for full and part-time students represents a slight decline from the previous two cohorts where the percentages tested ranged from the high nineties to 100%.

Burlington County College met the (90%) standard for two semester enrollment in writing (93%). However, in reading (89%), computation (69%) and in algebra (58%) the two semester enrollments in needed remediation did not meet the standard.

BCC met the standard of no more than 5% of identified students not yet enrolled by the fourth semester in a needed remedial course in reading and writing. However the standard was not met in computation (6%) or in algebra (13%). In algebra, the college has consistently failed to meet the 5% standard. However, the college has been in compliance in the other subject areas (reading, writing and math) for the three previous cohorts.

Students were retested upon successful completion of their remedial coursework but the institution did not meet the expected retesting rate standard of 95% retested in any skill area. The rates were as follows: reading, 76% retested; writing, 80%; computation, 80%; and algebra, 79%.

Remedial Areas

Reading

Placement Criteria. A score of 162 was used as a placement criterion for the remedial reading courses. This met the standard and exceeded it by one point. The criterion resulted in 39% of the full-time students and 35% of the part-time students being placed into remediation.

Remedial Program Outcomes. By the end of the fourth semester 77% of the full-time and 69% of the part-time students who enrolled in the reading program completed it. On retesting at the end of the remedial sequence, 89% of the students attained the college's minimum or were within one SEM of it, which missed the standard of 90% by one percentage point.

Subsequent Academic Performance. Students who required no remediation in the skill area passed the subsequent college-level course at a rate of 72%. The students who needed remediation and completed it passed the same course at a rate of 56%. The difference of 16 points did not meet the standard.

Sixty-six percent of the students not needing remediation had a cumulative GPA at or above 2.0 compared to 49% for the students who needed remediation and completed it. The difference of 17 percentage points between the two groups did not meet the minimum standard of 15. The remedial completers returned for the fourth semester at a rate of 57% compared to a rate of 46% for students who did not need remediation in reading, which met the standard of no expected difference between the two groups. The students who did not need remediation had a successful survival rate of 30% compared to 28% for the students who completed remediation. The difference met the standard.

In summary, the reading program shows mixed results. In several areas the program just missed the standard (enrollment, retest testing rate, and retest passing rate). Over 70% of those entering complete the program, and they are retained at the college at rates better than their non-remedial peers. However, their subsequent course passing rates and their cumulative GPA's do not meet the standard. While the SSR meets the standard it appears to be due largely to the attrition rates of the non-remedial comparison group.

Writing

Placement Criteria. The College uses as a placement criteria of 162 on the sentence sense combined with a "weak" essay -- as determined locally by the college faculty -- to place students into remedial writing. The cut score used on the sentence sense subtest meets the standard; however, the college does not explain fully its use of the essay, making it difficult to assess in the context of the standard. The college's placement procedures resulted in 48% of the full-time and 45% of the part-time students being identified for writing remediation.

Remedial Program Outcomes. By the end of the fourth semester 73% of full-time and 63% of the part-time students who had enrolled in writing remediation completed the sequence. As noted above, the college retested 80% of these students and of these, 90% attained the placement minimum or fell within one SEM, which met the standard.

Subsequent Academic Performance. The passing rates for the students who completed remediation exceeded the non-remedial students in the first (subsequent) college-level course by three percentage points (78% vs. 75%) This met the standard, and is a reversal of the typical pattern of non-remedial students having the better passing rate. Sixty-nine percent of the students who did not need remediation in writing had a cumulative GPA of 2.0 or better compared to 50% of the students who needed remediation and completed it. The difference of 19% did not meet the standard.

The remedial completers returned for the fourth semester at a rate of 58% compared to 47% for the students who did not need remediation in writing. The eleven percentage point difference in favor of the completers easily met the standard of no expected difference between the two groups. The SSR difference of 4 percentage points between students who needed remediation and students who did not need remediation met the minimum standard.

In summary, the program showed mixed results in that it met the standards on retest, retention, and subsequent course success. However it missed in the cumulative GPA standard in comparison to the non-remedial students and in the rate of retesting students who completed remediation.

Computation

Placement Criteria. The placement criterion used for computation, 168 on the NJCBSPT, met the standard and exceeded it by three scaled score points. Forty-seven percent of the full-time and 53% of the part-time students were identified as needing remediation in math computation.

Remedial Program Outcomes. The completion rate for full-time students was 66% and for part-time students 75% at the end of the fourth semester. Ninety-nine percent of the students who passed remedial computation also passed the retest. This easily met the standard of 90%.

Subsequent Academic Performance. Students who successfully completed the remedial computation course passed the first (subsequent) college level courses requiring mathematics at a higher rate than the students who did not need remediation (86% vs. 73%). This met the standard and is a reversal of the typical pattern or higher pass rates for non-remedial students.

Sixty percent of the students completing remediation had fourth semester GPA's at or above a "C" compared with 62% of the non-remedial students. The two point difference met the standard of no more than 15 percentage points.

The retention rate for the remedial completers was 60% vs. 50% for the non-remedial students. Further, the completers also had higher rates on the SSR (35% vs 31%). The results on both indicators met the standard and continued the pattern of this program showing "reversals," i.e., better performance for remedial completers than for the non-remedial students at the institution.

In summary, the program met every outcome standard and on many indicators showed outstanding results. The set of uniformly positive outcomes indicates a strong program.

Elementary Algebra

Placement Criteria. Students who score below 170 on the math computation or 168 on the algebra must take the remedial algebra course. Using these criteria, the college placed 50% of its students into remedial algebra. The placement policy for algebra met the standard.

Remedial Program Outcomes. Sixty-eight percent of the full-time and 71% of the part-time students who enrolled in algebra completed the program by the fourth semester. One hundred percent of those who satisfied the algebra requirements via coursework also attained the college's minimum on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. In algebra the non-remedial students' passing rate for the first (subsequent) college-level course exceeded the remedial students by seven percentage points. This difference did not meet the standard by two percentage points. However, the percentage of students attaining a GPA of 2.0 or greater was almost identical for the two study groups (63.7% non-remedial vs. 63.6% remedial). The difference met the standard.

The students in need of remediation had a higher retention rate than the students who did not need remediation (62% vs. 50%). In addition, the SSR was higher for the remedial students than the non-remedial students (40% vs. 32%). Both the retention and the SSR results met the standard and were very positive.

In summary, the algebra outcomes were generally positive for those students enrolled in and completing the program. Standards were met on all indicators except passing the subsequent mathematics courses. Clouding the interpretation of this program, however are the findings in the policy administration section above, namely that too many students identified for algebra never enroll in the program. Many (88 full- or part-time students) were present in the fourth semester without having enrolled in needed algebra remediation.

Overview

Strengths

Burlington County College is very successful in testing both full and part-time students. The college has shown over the years the ability to comply with the Board of Higher Education's minimum standard of 90%.

Across all skill areas, the remedial students' retention rates were higher than those of the non-remedial students. Remediated students' SSR's were higher as well. Burlington County College should be commended for its successful retention of remedial students.

In computation and writing, the remedial students outperformed the non-remedial students in the subsequent courses. In computation, it is particularly noteworthy due to the improvements from the previous cohorts. The computation program is now strong.

Areas of Concern

In computation only 69% of those identified enrolled in the appropriate remedial courses after two semesters and 75% after four semesters. In algebra the enrollment of those identified as needing remediation was only 58% in the second semester. Similar concerns were raised in the report on the 1984-86 cohort and the college president responded with a letter indicating that new advisement and registration procedures would be in effect to address this issue by the fall of 1989. Examination of the fall 1989-spring 1990 data indicate, however, that the enrollments remain below the 90% standard.

Rates of retesting students who complete remediation were below the desired 90% in each skill area. The college should examine its procedures for retesting in order to "capture" at least 95% of the cohort exiting remediation.

CAMDEN COUNTY COLLEGE

Policy Administration

In 1987, Camden County College tested 86% of its full- and 60% of its part-time students.[1] Neither rate met the standard. In 1986, Camden tested 100% of its full- and 47% of its part-time students.

Of the full-time students identified for remediation, Camden enrolled in remediation within two semesters 84% of those needing reading, 92% needing writing, 88% needing computation, and 82% in elementary algebra. Thus, the 90% standard was met only in writing. In the 1986 cohort, the two semester enrollment rates ranged from 43% for elementary algebra to 96% for writing.

The following percentages of full-time students identified for remediation had not appropriately enrolled within four semesters: reading, 15%; writing, 7%; computation, 11%; and elementary algebra, 32%. Thus, the standard of not more than 5% remaining was not met in any area.

The retest rate for students who completed the college's requirements for remediation in each skill was as follows: reading, 62%; writing, 66%; computation, 91%; and elementary algebra, 92%. Thus, in 1987, Camden did not meet the retest standard of 95% in any area.

In summary, Camden's performance in the area of policy administration has been poor. Camden has generally not met the standards for administering the NJCBSPT, for enrolling students identified for remediation into appropriate courses or for retesting students upon exit from remediation. Similar patterns were critiqued in the report on the 1984-1986 cohort but the college made no response. More recent data than the current report (1988 and 1989 cohorts) indicate that while full-time student testing has met the standard, part-time student testing still does not meet the standard, nor does enrollment into needed remedial courses. The large size of the entering cohort at Camden (1934 students required to be tested) means that not meeting the standard left hundreds of student untested (442), and hundreds more (873) who were tested but never enrolled in needed remediation but were present in the fourth semester.

Remedial Areas

Reading

Placement Criteria. Camden used 166 as its NJCBSPT-RC placement criterion, which met the standard and exceeded it by five scaled score points. Forty-nine percent of the full- and 45% of the part-time students tested were identified for reading remediation.

Remedial Program Outcomes. Sixty-three percent (n=284) of the full- and 54% (n=61) of the part-time students who were enrolled in reading remediation completed it in four semesters. This completion rate is lower than that of the Camden's Fall 1985 cohort (71% and 56%, respectively). Eighty-nine percent of the students who completed remediation attained the college's minimum on the retest or fell within one SEM of it, which did not meet the standard by one percentage point.

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[1] *When the Fall 1987 cohort was created, ESL completers, and learning disabled students were required to be tested and were therefore included by the college in its research cohort. This did not follow the guidelines and made its cohort different from those of other institutions.*

Subsequent Academic Performance. The pass rate of full-time remediated students in the subsequent college-level course was five percentage points lower than the pass rate of the non-remedial students (93% vs. 98%), which met the standard. The percentage of full-time reading remediated students attaining a cumulative grade point average (GPA) of at least 2.0 in the fourth semester was nine percentage points lower than the percentage of the non-remedial students (75% vs. 84%), which met the standard and was a substantial improvement over previous cohorts. In 1986, for example, the percentage gap was 17 points.

The retention rate of students who completed remediation exceeded that of non-remedial students by ten percentage points (67% vs. 57%). This positive difference met the standard and also represented an improvement over previous cohorts' performance. In the 1986 cohort, for example, the difference was only three percentage points in favor of the remediated group (59% vs. 57%) and the absolute rate was lower as well. The successful survival rate (SSR) of the full-time reading remediated students was 2% greater than the SSR of the non-remedial comparison students (50% vs. 48%), which met the standard and was a reversal of the usual pattern as well as an improvement over the 1986 cohort.

Camden's reading remediation program appears to have been somewhat effective. It met all of the subsequent academic performance outcomes but a positive conclusion, however, is tainted by two factors. First, the percentage of students attaining the minimum level on the retest did not meet the standard. And second, the large numbers of students who either were never tested or were never enrolled in needed reading remediation make drawing conclusions difficult.

Writing

Placement Criteria. Camden used 166 as its NJCBSPT-Composition cut-off score. This criterion met the standard and exceeded it by three scaled-score points. Sixty percent of the full- and 59% of the part-time students tested were identified for writing remediation.

Remedial Program Outcomes. Fifty-nine percent (n=356) of the full- and 52% (n=87) of the part-time students who were enrolled in writing remediation completed it in four semesters. This completion rate was lower than Camden's Fall 1986 full-time cohort (65%). Ninety percent of the students who completed writing remediation met the college's minimum on the sentence sense retest or fell within one SEM of it, which met the standard. It should be noted that Camden used the sentence sense subtest of the NJCBSPT (which deletes the Essay used in the initial placement) as its reported retest. The cut-off score was 166.

Subsequent Academic Performance. The pass rate of the writing remediated students in the subsequent college-level course was one percentage point lower than the pass rate of the non-remedial comparison students (93% vs. 94%), which met the standard. The percentage of writing remediated students attaining a GPA of at least 2.0 in the fourth semester was seven percentage points lower than that of the non-remedial comparison students (80% vs. 87%). This difference met the standard and represented an improvement over the previous two cohorts. In 1986, for example, the gap had been 12 points (74% vs. 86%).

Eleven percent more writing remediated students than the non-remedial students returned in the fourth semester (69% vs. 58%). This difference met the standard and represented an improvement over the two previous cohorts. The SSR of the writing remediated students was five percentage points greater than the SSR of the non-remedial students (55% vs. 50%), which met the standard and was a reversal of the typical pattern. In the 1986 cohort the SSR's of the completers were lower (46% vs. 50%) than those of the non-remedial students.

The good subsequent academic performance of the students who completed writing remediation and the percentage of students who attained the minimum level on the retest suggest that Camden appears to have a rather effective writing program. However, this conclusion is a guarded one. While 603 full-time students were identified for remediation, only 356 completed the program. Many (118 full- or part-time students) remained unenrolled in the fourth semester.

Computation

Placement Criteria. Camden used 166 as its NCBSPT-MC cut-off score. The criterion met the standard and exceeded it by three scaled score points. Eighty-seven percent of the full- and 61% of the part-time students tested were identified for computation remediation.

Remedial Program Outcomes. Sixty percent (n=266) of the full- and 51% (n=81) of the part-time students who were enrolled in computation remediation completed within four semesters. Of these, 76 full- and 10 part-time students completed remediation by means other than traditional courses. Of the students who were retested upon completing remediation, 100% attained the college's minimum level or were within one SEM, which met the standard.

Subsequent Academic Performance. The pass rate for full-time computation remediated students in the (subsequent) college-level course equalled the pass rate of the non-remedial students (90% vs. 90%). This zero percentage point difference met the standard. The percentage of computation-remediated students attaining a GPA of at least 2.0 in the fourth semester was only three percentage points lower than that of the non-remedial students (80% vs. 83%). This difference met the standard and represented an improvement over the previous two cohorts. In the 1986 cohort, for example, the gap was nine percentage points (75% vs. 84%).

The retention rate of students who completed computation remediation exceeded that of the non-remedial students by four points (61% vs. 57%). This difference met the standard and represented a modest improvement over the two previous cohorts. The percentages for the Fall 1985 cohort were equal (57%).

The SSR of the computation remediated students was one percentage point greater than the SSR of the non-remedial students (49% vs. 48%). This difference met the standard and represented a modest improvement over the two previous cohorts. The SSR's for the Fall 1986 cohort favored the non-remedial students by five points.

Considering the subsequent academic performance of the students who completed the computation instruction and the percentage of the students who attained the minimum level on the retest, Camden appears to have a rather effective computation remediation program. As in the other skill areas, however, this conclusion is provisional because of the low testing rates, the large number of students who were identified for computation but never enrolled within four semesters (134) and the rather low percentage of students who complete the program (60%).

Elementary Algebra

Placement Criteria. Camden County College used 175 as its NJCBSPT-EA cut-off score. This criterion met the standard and exceeded it by eight scaled score points. Seventy-nine percent of the full- and 90% of the part-time students tested were identified for elementary algebra remediation. (All curricula require enrollment in needed algebra remediation.)

Remedial Program Outcomes. Sixty-six percent (n=393) of the full-time students and 68% (n=113) of the part-time students who were enrolled in elementary algebra remediation completed it in four semesters. Of these, 84 of the full- and seven of the part-time students completed the remediation by means other than traditional courses. Ninety-nine percent of the students who completed algebra remediation attained the college's minimum on the retest or were within one SEM of it, which met the standard.

Subsequent Academic Performance. The pass rate of the elementary algebra remediated students in the (subsequent) college-level course equalled that of the non-remedial students (92% vs. 92%), which met the standard. In addition, the percentage of elementary algebra remediated students attaining a GPA of at least 2.0 in the fourth semester also equalled that of non-remedial students (85%). This met the standard and was a reversal of the typical pattern where the GPA's of non-remedial students are generally higher. Students completing algebra also equalled non-remedial students in fourth semester retention rates (70%). This percentage point difference met the standard. The SSR's of the two groups were also equal (59%), which met the standard.

Considering the subsequent academic performance of the students who completed elementary algebra remediation and the percentage of the students who attained the minimum level on the retest, Camden would appear to have a rather effective elementary algebra remediation program. However, the same reservations apply to this conclusion as to the other skill areas. Of the 1233 students identified for remediation, only 760 (or 62%) ever enrolled. A significant number (473) were present in the college in the fourth semester without ever having enrolled in needed algebra remediation. It is inappropriate to project whether the program would have met as many standards had it been able to serve a significantly larger proportion of the students identified for it.

Overview

Strengths

Camden appears to have had rather effective basic skills remediation programs for those students who enrolled. All of the remedial programs met the standards for passing rate for subsequent college-level course(s), retention rate, percentage of students attaining a GPA at or above 2.0, and SSR. In addition, the writing, computation, and elementary algebra remediation programs met the standard for the percentage of students who attained the minimum level on the retest. The positive conclusions, however, are guarded and provisional.

Areas of Concern

Camden has consistently failed to meet the standards for policy administration. The institution had a large number (1934) of students to be tested. It failed to test 171 full-time students and 266 part-timers. In addition, over 800 students needing remediation across skill areas were not enrolled in four semesters. In 1987, the standard for percentage of students enrolled in remediation within two semesters was not met in three (reading, computation and elementary algebra) of the skill areas; the standard for the percentage of students present in the fourth semester who had not yet begun remediation was not met in any skill areas; and the standard for retesting rate was not met in any skill area.

While enrollments in the remedial programs are large and the instructional outcomes reviewed generally successful, the extent of unmet testing and the extent of unmet enrollments due to administrative and advisement/registration shortcomings prevents a positive judgment on the strength of the programs.

In addition, ESL completers and learning disabled students were included in the cohort, contrary to reporting guidelines.

CUMBERLAND COUNTY COLLEGE

Policy Administration

Cumberland County College tested 95% of its full-time students and 89% of its part-time students. While the former percentage met the standard, the latter missed it by one percentage point. For each of the two previous cohorts the testing rate for both full- and part-time students was 100%.

In both writing and computation the percentage of identified full-time students who were enrolled in remedial courses within two semesters was 91%, which met the standard. By contrast, in reading and algebra the percentages were 88% and 85%, respectively; both of these latter figures failed to meet the standard. Overall, these figures represent an improvement over the 1986 cohort (where the percentages ranged from 73% to 84%), but not over the 1985 cohort (89%-98%).

In the areas of writing and computation the percentages of identified full-time students who were present in the fourth semester but had not yet begun remediation were 3% and 4%, respectively, both of which met the standard. In reading and algebra, however, the percentages were 6% and 8%, respectively, neither of which met the standard. These results are comparable to those for 1986 (2%-10%) and 1985 (3%-9%).

The percentages of all remedial completers (both full- and part-time) who were retested were 99% for reading, writing, and algebra, but 89% for computation. The standard was met in the first three areas, but not the last. In all skill areas, the small size of this institution should be noted. The entire cohort of students identified for remediation ranges from 100 to 175 full-time students by skill area. Consequently a small number of students has a large effect on reported percentages.

Remedial Areas

Reading

Placement Criteria. Cumberland used 165 as its NJCBSPT-RC cut score (with confirmation via the Nelson-Denny test). This criterion met the standard and exceeded it by four scaled score points. Forty-six percent of the full-time students and 42% of the part-time students were identified for remediation.

Remedial Program Outcomes. Of the full-time students who were enrolled in reading remediation, 72% completed the program by course work or other means by the fourth semester. The figure for part-time students was 62%. These results represent a decline from the 1986 cohort (75%, 63%).

Ninety-nine percent of all students (both full- and part-time, n=84) who successfully satisfied all remedial requirements in reading attained the college's minimum on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. The subsequent college-level course passing rate for full-time remedial completers in reading was 80%, as compared to 85% for non-remedial students. Thus the standard of a difference no larger than five percentage points was met. The observed gap of 5% represents an improvement over the 1986 cohort (16% gap), but not over the 1985 cohort (where remedial completers exceeded non-remedial students by 1%).

The percentage of full-time remedial completers in reading who attained a GPA of 2.0 or more (95%) equalled the percentage of non-remedial students, which easily met the standard of a difference no larger than 15 percentage points. The 1986 and 1985 cohorts met the standard as well (with gaps of 6% and 8%).

The retention rate for full-time remedial completers (66%) in reading was higher than that (52)% for non-remedial students, which met the standard of completers at least equalling the rates of non-remedial students. The observed "surplus" of 14% represents a significant improvement over the 1986 cohort (11% gap), but not over the 1985 cohort (20% "surplus").

The successful survival rate of the remedial completers was 14 points higher than that of the non-remedial students (63% versus 49%), which met the standard and was a reversal of the typical pattern. This excellent result on SSR represents a significant improvement over the 1986 cohort (14% gap), but not over the 1985 cohort (12% "surplus").

In sum, the results in the reading area for retesting and subsequent academic performance met the standards, in most instances by a wide margin (especially in the case of SSR's). These uniformly positive outcomes suggest a strong program.

Writing

Placement Criteria. Cumberland used 165 as its NJCBSPT-SS cut score (with confirmation via a writing sample). This criterion met the standard and exceeded it by four scaled score points. Forty-one percent of the full-time students and 34% of the part-time students were identified for remediation.

Remedial Program Outcomes. Of the full-time students who were enrolled for writing remediation, 80% completed the program by course work or other means by the fourth semester. The figure for part-time students was 76%. These results represent an improvement over the 1986 cohort (76%, 69%).

Ninety-four percent of all students (both full- and part-time, n=98) who satisfied all remedial requirements in writing attained the college's minimum on the retest or were within one SEM of it, which met the standard of 90%.

Subsequent Academic Performance. The subsequent college-level course passing rate for full-time remedial completers in writing was 81%, as compared to 86% for non-remedial students. The five point difference met the standard. The observed gap of 5 percentage points represents an improvement over the 1986 cohort (9% gap), but not over the 1985 cohort (1% "surplus").

The percentage of full-time remedial completers in writing who attained a GPA of 2.0 or more was 86%, as compared to 95% for the non-remedial students. This difference of nine points met the standard. The 1986 and 1985 cohorts met the standard as well (with gaps of 9% and 11%).

The retention rate for students who completed remediation in writing (64%) exceeded that of non-remedial students (54%), which met the standard of no expected difference.

In summary, as in the case of reading the results in the writing area for retesting and all the subsequent academic performance indicators were uniformly positive, suggesting an effective program.

Computation

Placement Criteria. Cumberland used 165 as its NJCBSPT-MC cut score, which met the standard. Forty-two percent of both the full-time and the part-time students were identified for remediation.

Remedial Program Outcomes. Of the full-time students who were enrolled for computation remediation, 78% completed the program by course work or other means by the fourth semester. The figure for part-time students was 87%. These results represent an improvement over the 1986 cohort (72%, 77%).

Ninety-nine percent of all students (both full and part-time, n=76) who successfully satisfied all remedial requirements in computation attained the college's minimum on the retest or were within one SEM of it, which met the standard.

Subsequent Academic Performance. The standard regarding the relative subsequent-course passing rates for computation completers versus non-remedial students cannot be applied, because all students at Cumberland must pass algebra before enrolling in their first (subsequent) college-level course.

The percentage of full-time students who completed remediation in computation who attained a GPA of 2.0 or more was 86%, as compared to 93% for the non-remedial students. This gap of 7% met the standard of a difference no greater than 15 percentage points. The GPA performance represents an improvement over the 1986 cohort (17% gap -- did not meet the standard), but only a very slight change in relation to the 1985 cohort (9% gap -- met the standard).

The retention rate for completers in computation was 77%, as compared to 51% for non-remedial students, which met the standard. The observed "surplus" of 26% in favor of the students who completed remediation represents a dramatic improvement over the 1986 cohort (16% gap), and a considerable improvement over the 1985 cohort (2% gap).

The successful survival rate of the remedial completers was 19 points higher than that of the non remedial students (66% versus 47%), which met the standard and was a reversal of the typical pattern. The outcome on SSR represents a dramatic improvement over the 1986 cohort (23% gap), and a considerable improvement over the 1985 cohort (7% gap).

In sum, following the pattern set in the ares of reading and writing, the results in computation for retesting and subsequent academic performance were uniformly positive, suggesting a program that is effective.

Elementary Algebra

Placement Criteria. Cumberland used 169 as its NJCBSPT-EA cut-score criterion, along with satisfaction of the computation requirement, which met the standard and exceeded it by two scaled score points. Seventy-two percent of the full-time students and 85% of the part-time students were identified for remediation.

Remedial Program Outcomes. Of the full-time students who were enrolled in algebra remediation, 67% completed the program by course work or other means by the fourth semester. The figure for part-time students was 83%. The full-time result represents a decline in relation to the 1986 cohort (76%), while the part-time result represents an improvement (56%).

Ninety-six percent of all students (both full and part-time, n=105) who successfully satisfied all remedial requirements in algebra attained the college's minimum on the retest or were within one SEM of it, which met the standard of 90%.

Subsequent Academic Performance. The subsequent-course passing rate for full-time remedial completers in algebra was 73%, as compared to 92% for non-remedial students. This gap of 19% did not meet the standard of a difference no larger than five percentage points. However, it represents an improvement over the performance of the 1986 cohort (32% gap), but is comparable to the 1985 cohort (22% gap).

The percentage of students who completed remedial algebra and attained a GPA of 2.0 or more was 85%, as compared to 91% for the non-remedial students. This gap of 6% met the standard. The 1986 and 1985 cohorts met the standard as well (with a gap of 8% and a "surplus" of 2%, respectively).

The retention rate for remedial completers in algebra was 75%, as compared to 72% for non-remedial students, which met the standard of remedial completers at least equalling the non-remedial student rate. The results were similar in the 1985 and 1986 cohorts.

The difference of two percentage points in successful survival rate between the remedial completers (64%) and non-remedial students (66%) met the standard of a difference no larger than 7 points. The 1986 and 1985 cohorts met the standard as well (with gaps of 1% and 4%).

The results in algebra were mixed. As in the other skill areas, retesting displayed positive outcomes, as did the GPA, retention, and SSR indicators. The subsequent college-level math course passing rate, however did not meet the standard.

Overview

Strengths

Rates of testing for both placement purposes for full time students and for retesting were good.

The evidence reviewed here strongly supports the conclusion that Cumberland County College students who undergo remediation learn the skills in question and subsequently perform well academically. The only notable exception pertains to the subsequent-course passing rate in algebra.

Areas of Concern

The college appears to allow a mechanism to award college credit for certain remedial courses. In answering "yes" to the question, "Are graduation credits awarded for remedial or developmental courses?" the institution responded as follows:

> "Courses at the 090 level (Reading 094, English 093 and Math 095) cannot be applied toward graduation or to fulfill degree requirements. After the first sixty (60) credits in degree programs other than Math/Science, Math 100 can be used as a free elective or math elective. (The mathematics faculty recommends that the student take college level math courses especially if the student is enrolled in a transfer program.) English 100 may be used as a free elective under similar circumstances."

This policy appears to allow college credits in opposition to the policy of the Board of Higher Education and should be reconsidered by the college. The college recently indicated that the policy is under review.

ESSEX COUNTY COLLEGE*

Policy Administration

For the 1987 cohort the college tested 698 of 729 full-time students. The 96% testing rate met the 90% standard as did the 95% rate for Essex's part-time students. The testing standards were also met for the 1985 and 1986 cohorts.

Enrollment rates within two semesters for full-time students identified for remediation were reading, 81%; writing, 87%; computation, 93%; and elementary algebra, 75%. The college met the 90% standard in the area of computation but did not meet the standard in reading, writing and elementary algebra. However, the college met the fourth semester standard (of no more than 5%) in each of the four skill areas as to the percentage of students present who had not yet begun needed remediation: reading, 4%; writing, 1%; computation, 1%; elementary algebra, 1%.

The percentages of students who completed remedial course work and were then retested were as follows: reading, 89%; writing, 80%; computation, 79%; and elementary algebra, 57%. The college did not meet the 95% standard for rate of retesting in any of the four skill areas.

Remedial Areas

Reading

Placement Criteria. The placement criterion used, 165 on the NJCBSPT-RC, met the standard. Seventy-nine percent of the full-time and 69% of the part-time students were identified for reading remediation.

Remedial Program Outcomes. Thirty-two percent of the full-time students and 36% of the part-time students successfully completed their remedial course requirements within four semesters. The completion rates appear low, although they are about ten percentage points higher than those reported for the 1986 cohort. The college has two levels of remedial reading after the "pre-remedial" program (see footnote). These rates represent the outcome from the total, multi-level program. Seventy percent of those who completed remediation met the college's minimum on the retest or fell within one SEM of it, which did not meet the standard of 90%. The retest minimum score of 161 was four points below the placement criterion used in Fall 1987. Had the retest and placement criteria matched, the percentage passing the retest would have been lower.

Subsequent Academic Performance. Seventy-eight percent of the students who completed remediation in reading passed their first college-level course as compared to 85% of the non-remedial students. The seven point difference did not meet the standard. Of the students who completed remediation (n=48) and

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* *The special challenge of providing remediation at Essex County College should be noted by an analysis of the proficiency levels of the incoming students. Of the 698 full-time students tested, 227 or nearly a third, produced scores so low that they were placed into the program at the Center for Academic Skills and Student Development (CASSD) which is a specially funded remedial program for adult students who test at lower elementary school levels. These students must successfully exit the CASSD program before entering the remedial sequence. CASSD students are included in the cohort identified for remediation and analyzed here.*

returned in the fourth semester, 81% attained GPA's of 2.0 or better as compared to 93% for the non-remedial group; the difference between the two groups met the standard.
Forty-six percent of the students who completed remediation in reading returned in the fourth semester as compared to 41% of the students who did not need remediation, which met the standard. The successful survival rates of the remediation-completed students (37%) and the non-remedial group (38%) differed by only one point and met the standard.

In summary, the reading program at Essex presents mixed results. A fairly low percentage of the initial (and on average, very low scoring) students exit the multi-leveled sequence of remediation. Their retest results do not meet the standard while the standard for passing the subsequent college level course was just missed. However, the standards for retention, GPA and SSR were met.

Writing

Placement Criteria. The placement criterion for writing was a score of 9 on the locally-scored NJCBSPT-Essay, which met the standard. Seventy-five percent of the full-time, and 71% of the part-time students were identified for remediation. For the spring of 1988 and subsequent semesters, the college changed the placement criterion to a 164 on the English Composition section of the NJCBSPT.

Remedial Program Outcomes. Sixty-two percent of the full-time and 61% of the part-time students completed the requirements for the remedial writing sequence. Fifty-two percent of the students who exited remediation in writing met the college's minimum score on the retest or fell within one SEM of it, which did not meet the standard of 90%. The retest criterion was an English Composition score of 164 on the NJCBSPT (used as of 1/88).

Subsequent Academic Performance. Of the students who completed remediation, 68% passed their first subsequent college-level writing course as compared to 69% for the non-remedial students. The one point difference met the standard. Seventy-four percent of the remediation-completed students attained GPA's of 2.0 or higher as compared to 80% of the non-remedial students. The six point difference between the two groups met the standard.

Forty-three percent of the remediation-completed students returned in the fourth semester as compared to 49% of the students who did not need remediation. This difference in favor of the non-remedial students did not meet the standard of no expected difference between the groups. Students who completed remediation exhibited an SSR of 32% as compared to 39% for the non-remedial students; this met the standard.

In summary, the writing program's completion rates were more than twice those of the reading program at the college even though both started with cohorts of similar size (448 and 453). The same pattern obtained in the 1985 and 1986 cohorts. With the exception of missing the standards on percentage reaching the minimum on the retest and retention rates, the program had generally positive results.

Computation

Placement Criteria. The placement criterion used for computation was a score of 165 on the NJCBSPT-MC, which met the standard. The application of this cut off score resulted in 74% of the full-time and 74% of the part-time students being identified as needing remediation in computation.

Remedial Program Outcomes. Fifty-eight percent of the full-time and 50% of the part-time students successfully satisfied the college's remedial requirements in computation. Of the students who were retested, 90% attained the college's minimum level or were within one SEM of it, which met the standard. The retest results were significantly improved over the 1986 cohort.

Subsequent Academic Performance. Data related to performance of full-time computation-remediated students in subsequent college-level mathematics courses were not reported because all students must complete remediation in algebra before being permitted to enroll in college-level mathematics courses. Seventy-two percent of the students who had completed remediation had achieved a GPA of 2.0 or higher as compared to 94% of the non-remedial students. The 22 point difference between the two groups did not meet the standard.

Of the students who completed remediation in computation, 34% returned in spring 1989, while 36% of the non-remedial students returned. This did not meet the standard which calls for no difference between the two groups. The SSR for the remediation-completed group was 25% as compared to 33% for the non-remedial group in computation. The eight point differential did not meet the standard.

In summary, the computation program displayed mixed outcomes. Just over half the students enrolled complete the program and the retest results have improved to the point where that standard was met. However, the standards were not met in subsequent GPA, retention (only 34% retained, a rate below that of non-remedial students) and SSR.

Elementary Algebra

Placement Criteria. A score of 174 on the NJCBSPT Elementary Algebra test was the criterion for placing students into algebra remediation. Ninety percent of the full-time and 92% of the part-time students tested were identified for remediation. These percentages include students who had been identified for remediation in computation.

Remedial Program Outcomes. Only 28% of the full-time (and 36% of part-time) students who had enrolled in remediation in algebra had completed it in four semesters.

Eighty-six percent of the students who successfully completed the college's algebra requirement attained the college's minimum on the retest or fell within one SEM of it, which missed the standard by four percentage points. While missing the standard, the results represent an improvement over the level reported for the previous cohort.

Subsequent Academic Performance. Seventy-six percent of the full-time students who needed remediation in algebra passed their first college-level math course, compared to 85% for the students who did not need remediation. The nine point difference did not meet the standard, which calls for no more than five points difference. However the performance of remediated students has improved by 24 percentage points over the 1986 cohort.

Retention rates were low in absolute terms but were higher for the remediated group (28%) than their non-remedial peers (25%), which met the standard. Eighty-three percent of the students who needed and completed remediation attained GPA's of 2.0 or higher, as compared to 100% of the non-remedial students (the latter numbered only 18 students). The seventeen point difference did not meet the standard.

Of the students who completed remediation, 23% had successfully survived after four semesters, as compared to 25% of the non-remedial students, which met the standard.

In summary, the algebra remediation program presents mixed results with improvements noted over the previous cohort in retest and subsequent college-level course passing rates. Standards were missed on retesting, subsequent course pass rate and GPA's. Interpretation of the outcomes is difficult because of the small percentage of students who actually exit the program (157 of 627) in four semesters and the much smaller size (n=18) of the non-remedial comparison group who were present in the fourth semester.

Overview

Strengths

Essex County College has tested a high percentage of its full and part-time students over the past three reporting cycles.

The college should be commended for designing a multi-level approach to deal with an enormous remedial need while maintaining appropriate exit standards. In the words of the college's report, "Approximately 90% of those attending...need to take some remedial course work. Given this situation, the problem at ECC is not to distinguish between those who need remediation and those who do not, but rather to distinguish between the total remedial student and the partial remedial student."

The college has been consistently effective in keeping to a minimum the percentage of students present in the fourth semester who had not yet begun remediation.

Essex County College has made improvements in retest results in mathematics, meeting the standard in computation for this cohort. Correspondence from the college indicates a consistent effort by the faculty to monitor and revise course sequences to meet the needs of the large remedial cohort effectively.

Areas of Concern

Enrollment of students in remedial courses within two semesters is a matter of concern in reading and elementary algebra. These enrollments have been consistently below the standard. The low percentages in algebra may reflect the effect of such a high percentage (74%) of students at the college needing to complete computation before enrolling in algebra. This appears to be a mitigating factor in the algebra enrollment percentage. The level of enrollment in writing, which had previously met the standard has slipped to the extent that it, too, does not meet the standard.

The percentage of students retested continues to be well below the standard, particularly in elementary algebra.

Retest results show that the percentages of students attaining the minimum retest level is below the standard in reading, writing and elementary algebra.

GLOUCESTER COUNTY COLLEGE

Policy Administration

Gloucester County College has consistently met and exceeded the Board's minimum placement testing requirement for its full- and part-time students, a commendable achievement. For the Fall 1987 cohort the full-time rate was nearly 100% (only one student out of a total of 565 was not tested), and the rate for part-timers was 99%; both rates met the standard.

Full-time students identified for remediation had enrolled in an appropriate remedial course within two semesters at the following rates: in reading, 99%; in writing, 96%; and in computation, 94%. Each of these two-semester enrollment rates met the standard. Similarly, of the full-time students identified for remediation and present in the fourth semester, only 0-1% of these students had yet to begin their prescribed remedial program across the three skill areas. The four-semester enrollment rates met the standard.

Students were retested upon successful completion of their remedial course work at the following rates: in reading, nearly 100% (99.6%); in writing, 100%; and in computation, 98%. The retest rates met the standard.

No data were provided for elementary algebra despite the existence of such a program; thus, the institution did not fulfill the guidelines of the Basic Skills Council. The college responded that this criticism in the last round of review "speaks to a continuing philosophical difference we have with the Council's approach to remediation in algebra."

Remedial Areas

Reading

Placement Criteria. Students whose NJCBSPT-RC scores were below 161 were placed into remedial reading, which met the standard. There was a two-level sequence for students whose NJCBSPT-RC scores were below 136. Using these criteria, 48% of the full-time students and 32% of the part-timers were identified for remediation. The percentages of full-time and part-time students identified represent increases from the 26% and 14% respectively reported in 1984.

Remedial Program Outcomes. Of the students who began remedial reading, 79% of the full-time and 80% of the part-time students successfully satisfied their remedial requirements within four semesters. Ninety-nine percent of the students who satisfied their requirements through course work attained the college's minimum on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at a rate of 87%, compared to 91% for the non-remedial students; the four percentage-point difference met the standard. Sixty-seven percent of the remediated students had cumulative GPA's of "C" or better, compared to 80% of the non-remedial comparison group; the 13 percentage-point difference met the standard.

Remediated students returned in the fourth semester at the rate of 64% compared to 54% for the non-remedial students, which met the standard. The SSR for both groups of students was 43%, which met the standard.

In summary, the 1987-89 outcomes for the remedial reading program were uniformly positive.

Writing

Placement Criteria. Gloucester used an NJCBSPT-English Composition (composite) score of 165 (which met the standard and was above it by four scaled-score points) by which it identified 59% of the full-time and 51% of the part-time students for its remedial writing sequence.

Remedial Program Outcomes. Seventy-seven percent of the full-time and 78% of the part-time students who began the program successfully satisfied all remedial requirements within a four-semester period. One hundred percent of the students who satisfied all requirements via course work attained the college's minimum score on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. Remediated students passed their subsequent English composition course at a rate that was four percentage points below that of non-remedial students in the same course (94% vs. 98% respectively), which met the standard. On the other hand, the 21-point difference between the two student groups on GPA performance (i.e., 65% of the remediated students and 86% of the non-remedial students attained cumulative GPA's of "C" or better) missed the standard.

Students completing remediation returned in the fourth semester at a greater rate (66%) than those who needed no remediation (55%), which met the standard. In addition, the SSR comparison for the two groups, 43% and 47% respectively, met the standard.

Overall, with exception of the GPA indicator the writing program exhibited positive student outcomes.

Computation

Placement Criteria. The computation cut-score used, a score of 165 on the NJCBSPT-MC, met the standard. At that level, 54% of the full-time and 49% of the part-time students were identified for computation

Remedial Program Outcomes. Of the students who began the program, 72% of the full-time students and 83% of the part-time students satisfied all remedial requirements within four semesters (10% and 9% respectively did so through means other than course work). One hundred percent of the students who successfully satisfied their requirements through course work attained the college's minimum score or fell within one SEM of it on the retest, which met the standard.

Subsequent Academic Performance. In 1987(-89) remediated students passed their first (subsequent) college-level mathematics course at the rate of 92%, compared to 98% for the non-remedial students; the difference missed the standard by only one percentage point. (Note, however, that the parallel performance differentials also fell short of the standard in 1985-87 and 1986-88, the latter by a wide margin.) Seventy-three percent of the remediated students had cumulative GPA's of 2.0 or better, nearly matching the 76% reported for the non-remedial group; the difference met the standard.

The retention-rate comparison favored the remediated group (64% vs. 59%), which met the standard. The same was true for SSR (47% for the remediated students vs. 45% for the non-remedial students), which met the standard and was a reversal of the typical pattern.

On balance, the picture presented by Gloucester's computation program was positive. On the first (subsequent) college-level course passing rate indicator the program's performance fell short by only one percentage point, and this was the only standard missed.

Elementary Algebra

At the time covered in this report, Gloucester County College did not require algebra remediation of all students. The college offered an elementary algebra course on a pass/no pass basis; placement was at the option of the student or upon recommendation of the first college-level math instructors. Although the course was considered to be a basic skill course, the NJCBSPT was not used for placement, contrary to the guidelines of the Basic Skills Council. Furthermore, no follow-up data were reported.

In response to the Board's recent action aimed at tightening the "algebra-as-a-basic-skill" requirement, the college has since indicated that it "will be in compliance by Fall 1992 as stipulated in the implementing resolution."

Overview

Strengths

Gloucester County College is to be commended for its consistently high placement testing rates and timely enrollments in remedial reading, writing and computation.

The college administered retests to virtually all students who completed its programs through course work in reading, writing and computation. In addition, retest results were favorable in the three areas.

Outcomes in the reading area were uniformly positive, and therefore strongly indicative of a successful remedial effort.

Outcomes for the writing and computation areas were predominantly positive, thus arguing for the successfulness of these programs.

In reading, writing and computation, retention rates for remediated students exceeded the rates for the non-remedial students. Similarly, SSR comparisons were favorable across the three skill areas.

Areas of Concern

The college did not use the NJCBSPT for algebra placement, contrary to the longstanding policies of the Board of Higher Education and Basic Skills Council. Moreover, data were not provided for elementary algebra despite the existence of such a program. On the issue of "algebra-as-a-basic-skill," Gloucester County College responded that it "will be in compliance [with Board requirements concerning elementary algebra] by Fall 1992...." Nevertheless, in the interim the college should utilize the NJCBSPT-EA and should submit data on its remedial algebra program in accordance with guidelines of the Basic Skills Council.

In the writing area, the college should investigate the wide gap in GPA performance between remediated and non-remedial students.

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HUDSON COUNTY COMMUNITY COLLEGE*

Policy Administration

For five consecutive years (through 1987), Hudson County Community College administered the NJCBSPT to 100% of its full and part-time students who were required to be tested, but only with the instrument's reading, writing and computation components. In 1987, for example, only 43% of the full-time and 48% of the part-time students were actually tested with the Elementary Algebra section. The college's report for the 1985 cohort stated that "students who have not taken a course in algebra are not required to be tested in Elementary Algebra (HCCC policy)." This practice of selectively administering the algebra subtest (and presumably only following/reporting on the small fraction of students who were tested) is in violation of standing Board of Higher Education requirements and is particularly significant in light of the Board's June 1990 resolution on elementary algebra. Whether this practice continues into the present could not be ascertained, in part because the institution was behind in its submission of the 1988(-90) report on remedial program effectiveness.

In 1987, the college met the minimum two-semester enrollment standard in writing: 97% of the full-time students identified for remedial writing had enrolled in the needed courses within two semesters. However, the two-semester enrollment requirement for full-time students was missed in reading (86%), computation (84%) and elementary algebra (32%). In Fall 1985, the college met the enrollment standard in at least two of the four areas (reading and writing) but in 1986 it clearly missed the standard in all four areas. In response to the unsatisfactory computation enrollment cited in the previous round of review, the college stated that many of the identified students "were students at HCCC's Culinary Arts Institute. Arrangements have been made to ensure that college placement policies will be applied to such students...."

In reading and writing (1987) there were no identified, full-time students present in the fourth semester who had not begun the necessary remediation, which met the standard. In the computation area, 5% of the identified, full-time students were present in the fourth semester without having begun the necessary remediation, which also met the standard. In elementary algebra, on the other hand, six returning students, or 7% of those identified for remediation, had not enrolled in the prescribed courses by the fourth semester, which did not meet the standard. In its self-study, the college attributed the enrollment difficulties "in part to attrition and in part to the significant number of students who need remediation in all areas."

**Academic Foundations (Basic Skills) and the Bilingual Education Institute together enroll approximately 1,359 students at the college, which is nearly half of the total enrollment at the institution (2,706 in Fall 1987). Some 800 students are enrolled annually in the Bilingual Institute, accounting for about 30% of the college's total enrollment. The presence of such a large proportion of underprepared and non-English speaking students confounds interpretation within the committee's frame of reference. In addition, a large proportion of the non-remedial students are part-timers. Since part-time students, by definition, were excluded in the follow-up comparisons, the non-remedial group reported on here was small. The contractual nature of some of Hudson County Community College's offerings, combined with the lack of description and clarification of these contractual relationships in the college's basic skills reports, added to the difficulty of conducting the review. Further, a set of unique circumstances prevailed at the institution during the review period. There was no permanent president, there were serious allegations regarding the governance and operations of the college, and the Middle States Association ordered the institution to show cause as to why its accreditation should not be removed (this show-cause order has since been lifted).*

The college succeeded in retesting 100% of the students across the four skill areas who satisfied all remedial requirements through course work, which met the standard.

Remedial Areas

Reading

Placement Criteria. Hudson used a score of 167 on the NJCBSPT-RC, which met the standard and was six scaled-score points above it. Using this criterion, 70% of the full-time and 69% of the part-time test-takers were identified for reading.

Remedial Program Outcomes. Fifty percent of the full-time and 41% of the part-time students enrolled in the reading program successfully satisfied their remedial requirements by the fourth semester (including 16% and 12% respectively through means other than course work). Ninety-nine percent of the students who completed the program attained the college's minimum score on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. For the first (subsequent) college-level course performance comparison, only eight remediation-completed students were tracked and reported on by the college. Of these 63% passed as compared to 88% of the 17 non-remedial students followed in the same course, which did not meet the standard. However, the inadequate sample sizes made it difficult to evaluate the result. In the institution's 1985(-87) report 36 remediated students were tracked and the standard was met, whereas in 1986(-88) only six remediated students were followed and the standard was not met. In the future the institution should carefully adhere to the Council's guidelines for selecting up to three follow-up courses in order to ensure the tracking of adequate numbers of students.

In 1987(-89) 82% of the remediated students had GPA's at or above a "C" compared to 73% for the non-remedial group, which met the standard and was a reversal of the typical pattern. Forty-four percent of the remediated students returned in the fourth semester, compared with 51% of the non-remedial students. The difference in retention rates did not meet the standard. However, students who completed the program had an SSR (36%) that nearly matched the SSR for the non-remedial students (37%), which met the standard. The pattern for SSR was similar in the 1986(-88) cohort, but the 1985(-87) result missed the standard by a wide margin.

In summary, outcomes for the reading skill area were mixed. Although the retest results and the GPA and SSR comparisons were favorable, the below-standard retention rate for remediated students raised questions about the overall effectiveness of the program. In addition, the first (subsequent) college-level course outcomes, although seemingly weak, were difficult to interpret due to the small number of students followed.

Writing

Placement Criteria. The placement criteria used for writing remediation consisted of a score of 7 on the NJCBSPT-Essay and a score of 165 on the NJCBSPT-SS. Both criteria met the standard and the latter was above it by four scaled score points. This resulted in the identification of 63% of the full-time and 62% of the part-time students for remediation. The identification rate for full-time students was somewhat higher (76%) in the 1986 cohort.

Remedial Program Outcomes. Of the full-time students enrolled in remedial writing, 63% completed the program. The completion rate was similar (60%) for part-time students. One hundred percent of the students who completed the remedial course attained the college's minimum cut-score on the retest or scored within 1 SEM of it, which met the standard.

Subsequent Academic Performance. Only 59 students who completed remediation (out of a possible 135 or so) were followed into the subsequent English composition course. Of these, 78% passed the subsequent course, compared to 93% of the 40 non-remedial peers followed. The difference did not meet the standard. It should be noted that the passing rate for the non-remedial students was high. In addition, 71% of the remediated students had GPA's at or above a "C" compared with 81% of the non-remedial students; the ten percentage-point gap met the standard.

At four semesters the retention rates for non-remedial and remediation-completed students were identical (52%), which met the standard. The SSR for remediation completers (37%) was five percentage points beneath that for the non-remedial comparison group (42%), which met the standard and represented a slight improvement over the 1985(-87) result (a gap of 10 percentage points).

In the writing area, therefore, the weak result on the first (subsequent) college-level course indicator detracted from the otherwise favorable outcomes. In order to better understand these results it would be helpful for the college to track a greater percentage of its students into the English composition course.

Computation

Placement Criteria. The college's criterion for placement in computation was an NJCBSPT-MC score of 168, which met the standard and was above it by three scaled score points. Hudson identified 79% of its full-time and 82% of its part-time students for computation.

Remedial Program Outcomes. Of the full-time students enrolled in remediation, 34% (or 89 students) successfully satisfied all remedial requirements within the four-semester period. Part-time enrollees had a completion rate somewhat higher (44%). All those who completed the program (i.e., 100%) reached the college's minimum on the retest or fell within 1 SEM of it, which met the standard.

Subsequent Academic Performance. In the first (subsequent) follow-up course, the 18 remediated students that were reported on passed the course at a rate of 67%, compared to 81% for the 21 non-remedial students followed. The difference, which did not meet the standard, should be viewed with caution because of the small sizes of the study groups. In terms of percent cumulative GPA at or above a "C," completers of computation surpassed their non-remedial counterparts (85% vs. 80%), which met the standard and was a reversal of the general pattern.

Only 31 of 80 students (39%) who completed computation remediation returned in the fourth semester, compared to 57% of the non-remedial students at the institution; the difference missed the standard by a wide margin and is cause for concern. Not surprisingly, the difference in the SSR's (33% vs 45% respectively) also missed the standard.

In sum, the small fraction of students who completed computation at Hudson did well on the retest but as a group their subsequent retention and SSR did not compare favorably with the non-remedial students. On the other hand, the GPA comparison favored completers of remediation. As in the other skill areas, outcomes for the inadequate samples of students that were followed into the first (subsequent) college-level course shed little light on the success of this program.

Elementary Algebra

Placement Criteria. The college used an NJCBSPT-EA score of 168 below which students were placed into algebra remediation, which met the standard and was one scaled score point above it. In addition, students were identified for remedial algebra on the basis of curriculum. In 1987, 56% of full-time and 50% of part-time students were identified for the elementary algebra program. The college intends to phase in a mandatory elementary algebra requirement beginning in Fall 1992.

Remedial Program Outcomes. At the four semester mark, 36% of the full-time and 50% of the part-time students enrolled in remediation had successfully satisfied all remedial algebra requirements. All of the 25 students (100%) who completed algebra remediation via course work attained the college's minimum score on the retest or fell within an SEM of it, which met the standard.

Subsequent Academic performance. The college followed only five of the approximately 18 possible algebra completers into a single first (subsequent) college-level course (Accounting I). All of these students passed the course, compared to 88% of the eight non-remedial students followed, which seemingly met the standard. However, this result should be viewed with caution for two reasons: (1) the inadequate sample sizes, and (2) the choice of Accounting I rather than a mathematics course for follow up. For the three previous cohorts the college also tracked only a handful of students into their subsequent courses.

Seventy-six percent of both the students completing algebra remediation and the non-remedial students posted GPA's at or above a "C," which met the standard. Further, the fourth-semester retention rate of the small cohort of algebra completers (100% of 18 students) surpassed the rate of the non-remedial comparison group (60%), which met the standard. In addition, the SSR for remediated students (76%) also exceeded that of the non-remedial group (46%), which met the standard and was a reversal of the typical pattern.

In conclusion, the outcomes reviewed here were generated by a small number of students (a total of 25 students completed algebra remediation within the two-year period). This coupled with the fact that the college contracted for most of its non-remedial courses at other institutions made it difficult to assess the success of remediated students in subsequent mathematics courses. There were positive indications that the program is valuable for the students who persist through it, including the strong retest results and the GPA, retention and SSR comparisons.

Overview

Strengths

The college has a solid record of testing 100% of the students required to be placement tested in reading, writing and computation.

In 1987, enrollment in needed writing remediation was especially timely for the bulk of identified, full-time students (and was improved over 1986). In addition, all or virtually all identified, full-time students who returned in the fourth semester had begun the necessary courses in reading, writing and/or computation by this time.

The college is to be commended for its high rates of retesting across all four remedial areas.

In all four skill areas high percentages of students who completed remediation attained the college's minimum retest scores or fell within an SEM of the scores, and the criteria used by the college in each instance were above the minimum cut-scores recommended by the Council.

The pattern of results for elementary algebra (e.g., strong retest results and favorable GPA, retention and SSR comparisons), although difficult to fully interpret, suggested that the program was successful for the small number of students who completed it. Similarly, with exception of the problematic results in the first (subsequent) college-level course, the writing program at Hudson exhibited positive signs of success.

Follow-up GPA comparisons were favorable across the four skill areas. Similarly, outcomes on SSR reflected positively on three of the four programs (i.e., reading, writing and algebra).

Areas of Concern

Hudson's policy of not administering the algebra test to students "who have not taken a course in algebra" (and presumably not following/reporting on such students) is in violation of long-standing Board of Higher Education requirements and is especially significant in light of the Board's June 1990 resolution on elementary algebra.

Greater effort should be made to ensure the timely remedial enrollment of those students identified for reading, computation and elementary algebra.

The college's reports indicate that it is having difficulty generating the data required for lack of a comprehensive data processing and tracking system. In addition, the "lack of a complete centralized database has prevented us from conducting formal follow-up studies of those completing remediation." Correction of this archaic situation should be given the highest priority, in order to "more accurately trace students and to conduct more sophisticated analyses."

In particular, the institution's follow up of remediated students in first (subsequent) college-level courses (all skill areas) merits attention. The inadequate sample sizes reported on here added to the difficulty of interpreting results. In the future the institution should carefully adhere to the Council's guidelines for selecting up to three follow-up courses in order to ensure the tracking of adequate numbers of students. Further, the choice of Accounting I as a follow-up course in elementary algebra requires rethinking.

In one of its reports the institution stated that "the contractual nature of some of HCCC's offerings makes it difficult for all those needing computational remediation to be placed into needed courses." Yet the institution's brief descriptive text did not in any way clarify Hudson's key contractual relationships with other institutions. This was a serious shortcoming that made it difficult to understand and evaluate the outcomes.

In reading and computation areas, the unfavorable results on the retention indicator raised questions about the overall effectiveness of these programs.

Suggestions For Further Inquiry

By definition, students who had completed ESL programs were excluded from the data required for this study. However, since such students make up an unusually large segment at this institution, Hudson should itself track these students into and through the remedial programs in order to determine their success.

In reading, writing and computation areas the apparent disparity among college-level course passing rates, GPA's and retesting results for remediated students might warrant investigation.

MERCER COUNTY COMMUNITY COLLEGE

Policy Administration

Mercer County Community College tested more than 90% of both full-time and part-time students who were required to be tested in all three cohorts ('85, '86, and '87) reviewed. The college thus met the standard on testing requirements.

Full-time students in the 1987 cohort who were identified for remediation were enrolled within two semesters at the following rates by skill area; reading (91%), writing (92%), computation (91%), and algebra (71%). The two semester enrollment figure for algebra is irrespective of computation need. Thus the enrollment standard was met for the first three skill areas but the standard for algebra could not be assessed. A similar pattern was noted for the 1985 and 1986 cohorts.

in all skill areas the college had less than 5% of its full-time students identified for remediation present in the fourth semester without having appropriately enrolled, which met the standard.

The college supplied retest results for over 90% of the students who completed remediation via coursework. In fact 100% of students who passed were retested because the college has a policy of using the retest as a final gatekeeper for exit from remediation. The institution has also had its locally developed tests in reading and writing approved by the Basic Skills Council for use as retests in lieu of the NJCBSPT.

Remedial Areas

Reading

Placement Criteria. At 162 (and 163 in '86) on Reading Comprehension test, Mercer met the standard on placement criteria in this area. Forty-four percent of full-time and 46% of part-time students were identified for reading remediation.

Remedial Program Outcomes. The remediation completion rates for students who enrolled in a remedial course improved from 56% in 1986 to 72% in 1987 for full-time students, and from 45% to 67% for part-time students during the same period.

Nearly 100% of students in all the three cohorts who passed the final level of remedial course in reading attained the minimum required score on the retest. However, these results are based on old exit standards on the local test which the college acknowledges is lower than what would correspond to the placement criterion on the New Jersey Reading Comprehension test. This was discovered only last year as a result of the equivalency study that Mercer conducted to get approval for using their local reading test for retesting purposes. Even so, the retest results appear to meet the standard of 90% of students at the placement minimum or within one SEM.

Subsequent Academic Performance. The data reported on the passing rates of remediated and no-need students in subsequent college-level courses were somewhat complex. More than one set of results were reported reflecting different combinations of college courses and exclusion or inclusion of 'w' grades. However, for all the three cohorts, the differences between the passing rates for remediated and no-need students ranged from 5 to 10 percentage points (1985, 10; 1986, 5; 1987, 9). For the 1987 cohort the college provided pass rate data in seven subsequent courses for over 300 students who completed reading remediation. The difference between these students' passing rates and those of non-remedial students was nine percentage points. In English composition as the follow up course, the difference was six points. The enormous supply of data provided indicates that the program consistently misses the desired standard by a small margin.

Mercer had difficulty in excluding incompletes and withdrawals from the computation of GPA's. Based on the data reported, the gap between the percentages of remediated and no-need students with a GPA of 2.0 and above in all the three cohorts was more than 15 points (1985, 25; 1986, 27; 1987, 17). Thus the program did not meet the standard on this indicator. However, the narrowing of the gap to 17 percentage points in the 1987 cohort is a positive sign that the program will reach the desired standard of a gap no larger than 15 points with subsequent cohorts.

The retention rate for remediated students (59%) was higher than that of non-remedial students (54%), which met the standard of no expected difference between the two groups.

While the program did not meet the SSR standard for the 1985 and 1986 cohorts, the six percentage point gap in SSR between students who completed remediation (34%) and students who did not (40%) need remediation met the standard for the 1987 cohort.

In summary, the reading program shows mixed results but several signs of improvement over time. Retest, retention and SSR were positive indicators while subsequent college-level course passing rate and especially GPA were negative indicators.

Writing

Placement Criteria. Mercer's placement criteria consisted of 165 on the sentence sense score or a score of 8 on the essay if the student's SS score was between 156 and 164. The criteria met the standard. The college's placement process identified 45% of full-time and 49% of part-time students for writing remediation.

Remedial Program Outcomes. The percentage of students who enrolled in required remedial writing courses and completed remediation improved for full-time students from 56% in the '86 cohort to 74% in the '87 cohort, and for part-time students from 45% to 74% during the same period. The improvement in completion rates is noteworthy.

Nearly 100% of students who completed the final remedial course in writing attain the college's exit standard on the retest. However, the program uses a local test for retest, and the exit standard on the test was lower than a corresponding level on the NJCBSPT. (See the explanation for this in the reading section.) Nevertheless recalculation indicated that 97% of the cohort attained the retest criterion or were within one SEM of it, which met the standard.

Subsequent Academic Performance. The program met the standard on the difference between the passing rates for the students who completed remediation versus no-need students in subsequent college composition courses in all the three cohorts. For the 1987 group the passing rates were 86% for the students who completed remediation and 91% for non-remedial students.

In addition, the program met the standard of not more than fifteen points difference between the percentage of remediated and no-need students who had a four-semester cumulative GPA of 2.0 or higher. The standard had not been met for the 1985 and 1986 cohorts.

The retention rates of remediated students were higher than similar rates for no-need students in all three cohorts. Thus the program met the standard of remedial student retention at least equalling that of non-remedial students.

The difference in SSR's between students who completed remediation (36%) and those who never needed it (39%) was three percentage points, which met the standard. The program had not met the standard on the successful survival rate in the 1985 and 1986 cohorts as the SSR for the remediated students was more than 7 percentage points lower than the SSR for the no-need students (1985, 12; 1986, 11).

In summary, the writing program outcomes showed improvement on several of the indicators and, in fact, met every standard. The uniformly positive outcomes indicate a program that has been honed over time and is now strong.

Computation

Placement Criteria. The placement criterion of 165 on the computation test met the standard. Forty-eight percent of the full-time and 54% of the part-time students were identified for computation remediation.

Remedial Program Outcomes. The completion rates for those enrolled in a computation remedial course improved for full-time students from 70% in 1986 to 75% in 1987 and for part-time students from 62% to 76% during the same period. The improvement in completion rates is noteworthy, especially in the part-time group since the numbers involved were not small (over 230).

The retest results showed that everyone who passed the remedial course in computation and for whom the retest results were available attained the required exit standard on the retest. Passing the retest is a requirement for course exit.

Subsequent Academic Performance. In the 1987 cohort, the passing rate in the first (subsequent) college-level courses chosen for follow-up for remediated students was six points lower than the rate for no-need students, and thus the program missed the standard by one point. The program did not meet the standard on passing rates in subsequent college courses in 1985 (missed by 13 percentage points) but met the standard in 1986. The significant variations in results from year to year may be the result of using different sets of college-level courses from year to year for comparing the performance of the two groups.

Sixty percent of the computation completers had GPA's at or above a 2.0 in the fourth semester compared to 75% of the non-remedial students. The fifteen point difference just met the standard. The program failed to meet the standard on the GPA difference indicator in 1985 and 1986 when the differences were 20 and 21 points respectively.

The remediated students were retained at a higher rate in the fourth semester (57%) than the non-remedial students (54%), which met the standard. The retention rate standard had also been met in the 1985 and 1986 cohorts.

The program met the standard on SSR gap for the 1987 cohort (SSR of 41% for non-remedial vs. 34% for remediation completed students).

In summary, the program met the outcome standards with the exception of the passing rates in subsequent college-level course. The longitudinal data show that on several indicators the program results tend to hover just above or just below the standard.

Elementary Algebra

Placement Criteria. The placement criterion of 167 on the Elementary Algebra test met the standard. Sixty-two percent of full-time and 77% of part-time students were identified for algebra remediation.

Remedial Program Outcomes. The completion rate via coursework for both full- and part-time students was 73%. This represented an improvement over the 66% to 67% rates for the 1986 cohorts.

One hundred percent of the students who completed a remedial course in algebra and for whom the data were available attained the exit standard on the retest, which met the standard.

Subsequent Academic Performance. The remediated students passed the subsequent college-level math courses at a rate of 76% compared to 82% for the non-remedial students, which missed the five percentage point standard by one percentage point. The program met the standard (by one percentage point) in the 1986 cohort but missed it in 1985.

The college met the standard on GPA difference indicator for all the three cohorts. Sixty-six percent of students who completed remediation had fourth semester GPA's at or above 2.0 compared to 77% for the students who did not need remediation in the 1987 cohort.

For both 1986 and 1987 cohorts the remediated students had higher retention rates than the rates for no-need students and thus the program met the standard. Retention rates for the 1987 group were 64% for the students completing remediation and 58% for those not needing remediation.

The program also met the seven percentage point standard on the SSR gap between the two study groups (42% for remediation completers vs. 45% for non-remedial students) as it did in the 1986 cohort.

In summary, the outcomes for the algebra program are similar to those of computation. Only the passing rate standard in subsequent college-level course was missed, while the other indicators were met in the 1987 group but showed variability in the 1985 and 1986 cohorts.

Overview

Strengths

Mercer County College should be commended for consistently high rates of testing its students who were required to be tested. This is particularly commendable in the case of part-time students. The college was also effective in ensuring that remedial students who continue in the college start their remediation in a timely fashion.

Across skill areas the college has made significant progress in increasing the percentage of students who complete remediation.

The retest results achieved by the college were high, and the college should be congratulated for ensuring that students do not get out of remediation without attaining the required minimum standard.

The college should also be recognized for improving the performance of remediated students in college-level courses and also for improving the successful survival rate of its remediated students.

Overall, the discrepancy between the performance of remedial students on the retest and their academic performance subsequent to remediation that was so obvious in the 1985 and 1986 cohorts appears to have largely disappeared except for the performance of remediated students in some skill-related college courses. The college is commended for showing better outcomes for the remedial students in the 1987 cohort than were apparent in the 1985 and 1986 cohorts.

The level of detail provided in the college's reports to the Basic Skills Council has, for the past several years, been well beyond the minimum required by the guidelines, including extra, longitudinal analyses.

Areas of Concern

As pointed out earlier, because the college provided so much extra data, there were sometimes problems in identifying the data comparable to that of other colleges on several indicators. In the case of the GPA indicator, the data reported diverged slightly from the definitions provided in the state guidelines. The college should make efforts to correct this situation in the future.

MIDDLESEX COUNTY COLLEGE

Policy Administration

For at least three consecutive years, Middlesex County College succeeded in testing nearly 100% of its full-time and over 90% of its part-time students requiring placement testing, which met the Board's minimum testing requirement. It should be noted that the testing rates for part-time students in 1985, 1986 and 1987 were much improved over the rate reported in 1984 (74%).

Of the full-time students identified for remediation, Middlesex enrolled within two semesters 100% in reading, 99% in writing, 98% in computation and 98% in elementary algebra. Each of these rates met the Board's minimum two-semester enrollment expectation and was consistent with the values reported in prior years. Similarly, by the fourth semester the percentages of full-time students who had not yet enrolled in the necessary remedial courses met the standard in all four skill areas (essentially 0% in reading, writing, and computation; 4% in elementary algebra).

In 1987(-89), students were retested upon successful completion of their remedial course work at the following rates: 77% in reading, 78% in writing, 74% in computation, and 68% in elementary algebra. Each of the retest rates missed the standard by a wide margin. [A preliminary look at the institution's 1988(-90) data revealed that these retest "capture" rates were improved significantly; nevertheless, rates in the remedial mathematics areas still fell short of the standard.]

Remedial Areas

Reading

Placement Criteria. The College used a cut-score of 162 on the NJCBSPT-RC as its criterion for placement, which met the standard. This resulted in 43% of the full-time and 25% of the part-time students being identified for remediation.

Remedial Program Outcomes. Of the students enrolled in remedial reading, 62% of the full-time and 87% of the part-time enrollees successfully satisfied all remedial requirements by the fourth semester. Ninety-seven percent of the students who successfully completed the reading program and were retested attained the college's minimum score on the retest or fell within an SEM of it, which met the standard.

Subsequent Academic Performance. For the 1987 cohort, 72% of the remediated students passed their first (subsequent) college-level course, compared to 79% of the non-remedial students. The difference missed the standard by two percentage points. On the GPA indicator, 67% of the remediated students had cumulative GPA's at or above "C," compared to 80% of the non-remedial students; this 13 percentage-point gap in GPA performance met the standard.

Remediated students returned in the fourth semester at a higher rate (67%) than their non-remedial counterparts (55%), which met the standard. The program completers posted a cumulative SSR of 45%, compared to 44% for the non-remedial students. The difference met the standard and was a reversal of the typical pattern.

In summary, results on the first (subsequent) college-level course indicator detracted from the otherwise favorable student outcomes. However, the low retest "capture" rate made the outcomes difficult to interpret fully.

Writing

Placement Criteria. An NJCBSPT-SS cutoff score of 170 was used as a criterion for placement, which met the standard and was above it by nine scaled-score points. Students who scored below 170 on the NJCBSPT-SS had their essays read locally. If they attained an Essay score of 7 or higher they "were exempted from remediation in writing" (which met the standard). For the 1987 cohort, 42% of the full-time students and 28% of the part-time students were identified for remediation. Identified students were placed in one of two remedial writing courses.

Remedial Program Outcomes. Of the students enrolled in remedial writing, 72% of the full-time and 66% of the part-time students successfully satisfied all remedial requirements by the fourth semester. Only 60% of the students who successfully satisfied all remedial requirements (and were retested) attained the college's minimum retest score on the NJCBSPT-SS or fell within an SEM of it, which missed the standard by a wide margin. [However, note that NJCBSPT-Essay retest scores (locally read) were also available for a fraction (76%) of the students retested with the NJCBSPT-SS; of these, 93% attained the college's minimum Essay level or fell within an SEM of it.] While the placement criteria used a tiered combination of NJCBSPT-SS and Essay for each student, retest data were not correlated in a similar way for individual students. Therefore it was difficult to assess the percentage of individual students reaching the minimum.

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course (English composition) at a rate of 83%, compared to 81% for the non-remediated students; this two percentage-point differential met the standard. Completers of remediation as a group were fifteen percentage points behind their non-remedial counterparts in percent cumulative GPA's at or above "C" (65% and 80% respectively), which met the standard.

Remediated students returned in the fourth semesters at a higher rate than the non-remedial students (62% and 55% respectively), which met the standard. The SSR for the remediation-completed students was 41%, compared to 44% for the non-remedial students; the difference met the standard.

In summary, the weak retest results on the NJCBSPT-SS detracted from the otherwise favorable student outcomes. Retest results on the NJCBSPT-Essay, although favorable, were available for only a fraction of the total number of retested students. The overall low "capture" rate for retesting added to the difficulty of interpreting the results.

Computation

Placement Criteria. Middlesex placed students in computation using a cut-score of 166 on the NJCBSPT-MC, which met the standard. Forty-two percent of the full-time and 39% of the part-time students were identified for remediation in computation.

Remedial Program Outcomes. Sixty-nine percent of the full-time students and 91% of the part-time students who enrolled in computation successfully satisfied all remedial requirements in the skill area by the fourth semester. Ninety-nine percent of the students who successfully completed the program and were retested attained the college's minimum score on the retest or fell within an SEM of it, which met the standard.

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at the rate of 55% as compared to 71% for the non-remedial students. The 16 percentage-point difference in performance did not meet the standard. The institution expressed concern that "it is difficult to identify skill related college-level courses which can be used to compare the performance of remedial and non-remedial students."

Remediated students as a group were 14 percentage points behind the non-remedial students in the percent cumulative GPA's at or above "C" (65% and 79% respectively); this difference met the standard.

The fourth-semester return rate for completers of computation (58%) was one percentage point higher than that for the non-remedial students (57%), which met the standard. Remediated students collectively had an SSR of 38%, compared to 45% for the non-remedial students; the seven percentage-point difference in SSR's met the standard.

In conclusion, the retest results and comparisons on GPA, retention and SSR were positive signs. However, results on the first (subsequent) college-level course indicator detracted from these favorable indications. In addition, the low retest "capture" rate added to the difficulty of interpreting the results.

Elementary Algebra

Placement Criteria. In 1987, the institution used an NJCBSPT-EA score of 167 (and a curriculum requiring mathematics) for remedial algebra placement. This cut-off score met the standard. Thirty-one percent of the full-time students and 14% of the part-time students were identified for remedial algebra. In response to the Board's recent action aimed at tightening the "algebra-as-a-basic-skill" requirement, the college has indicated that "by the Fall 1992 all programs at Middlesex will be in full compliance with the algebra mandate."

Remedial Program Outcomes. Of those who enrolled in remedial algebra, 54% of the full-time students and 85% of the part-time students successfully satisfied all remedial requirements by the fourth semester. Ninety-nine percent of the students who successfully completed the program and were retested attained the college's minimum retest score or fell within an SEM of it, which met the standard.

Subsequent Academic Performance. The passing rate in the first (subsequent) college-level courses for both remediated and non-remedial students was the same (66%), which met the standard. As to the broader academic indicator, 76% of the remediated students attained a cumulative GPA at or above "C," three points below the performance of the non-remedial comparison groups (79%). The difference met the standard.

Students who completed remedial algebra returned in the fourth semester at a rate of 75%, compared to 61% for the non-remedial students; the difference met the standard. The SSR for the remediated group was 57%, as compared to 48% for the non-remedial students; the difference in favor of remediated students met the standard and was a reversal of the typical pattern.

In summary, the strong retest results and favorable comparisons across all student outcome indicators were seemingly positive indications. However, the low retest "capture" rate made it difficult to understand these otherwise positive signs.

Overview

Strengths

For several consecutive years, Middlesex County College has succeeded in testing nearly 100% of its full-time students and over 90% of its part-time students requiring placement testing. Further, the testing rates for part-time students in 1985, 1986 and 1987 were much improved over the rate reported in 1984.

Similarly, students who were identified for remediation in all areas were enrolled in appropriate remedial courses in a timely fashion. In that these remedial programs are among the largest in the state, this achievement is especially significant.

For the reading, computation and elementary algebra programs retest results were especially high and reflected improvement since the previous cycle of review. However, the unsatisfactory retest "capture" rates made it difficult to interpret these positive signs.

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Retention rates were higher for the remediation-completed groups than for the non-remedial students in all skill areas. Further, comparisons on GPA and SSR indicators were consistently favorable across the four remedial areas.

Student outcomes for the elementary algebra program appeared uniformly positive, and the retest results (for those who were retested) were especially strong. A favorable interpretation of this pattern, however, was obscured by a number of factors, including the low retest "capture" rate.

Areas of Concern

Each of the institution's retest "capture" rates missed the standard by a wide margin, contrary to Board requirements. This made it difficult to fully assess program outcomes. [These "capture" rates improved by 1988(-90); nevertheless, rates for the mathematics areas still fell short of the standard.]

For writing, the weak retest results on the NJCBSPT-SS and their apparent contradiction by available NJCBSPT-Essay scores merit examination by the college.

Despite some difficulty in identifying appropriate first (subsequent) college-level courses for follow-up comparison in the reading and computation areas, the passing rates in these courses warrant further investigation. The 16 percentage-point differential in the case of computation was especially worrisome.

COUNTY COLLEGE OF MORRIS

Policy Administration

The County College of Morris (CCM) tested nearly 100% of the full and part-time 1986 and 1987 cohorts, thereby meeting the Board standard. This represents a significant improvement from the percentages reported for the 1985 cohort (77% full-time and 80% part-time).

The percentage of full-time students identified for remediation who enrolled within two semesters easily met the 90% standard in reading, writing, and computation. However, the percentage enrolled in algebra (for those not requiring computation) was 79% which did not meet the standard. The enrollment rate in computation should be viewed cautiously because the number enrolled (which is reported on the Annual Questionnaire) exceeded the number identified (per the Effectiveness Report). The college reported that due to a programming problem, the size of the cohort changed from one report to the next. Larger discrepancies were noted in the 1985 and 1986 cohorts making it difficult to assess trend data.

In all four skill areas, few students (less than 5%) remained who had not begun needed remediation, thus the standard was met.

Only in writing were retest scores provided for 95% of those who completed remediation course work. The standard of 90% retested was not met in the other skill areas; however, in each of the other skill areas the percentage exceeded 90%.

Remedial Areas

Reading

Placement Criteria. For the 1987 cohort, students scoring below a 165 on the NJCBSPT- RC were placed into remediation. This met the minimum standard and was four scaled score points above it. Placement criteria for the 1985 and 1986 cohorts linked an RC score below 165 with an essay of 6 or below. The use of just the RC score, along with tighter testing policies, increased the percentage of full-time students identified for remediation from 25% in 1985 to 43% in 1987. Similarly, the percentage of part-time students identified for remediation increased from 10% in 1985 to 29% in 1987.

Remedial Program Outcomes. Sixty-five percent of the full-time and 53% of the part-time students enrolled in remediation completed all requirements by the end of the spring 1989 semester.

Eighty-one percent of the students who successfully completed remedial course work attained the college's minimum or were within one SEM on the retest. This did not meet the 90% standard.

Subsequent Academic Performance. Students completing remediation passed their first (subsequent) college-level course at a slightly higher rate than non-remedial students (95% vs. 93%) which met the standard and was a reversal of the typical pattern. The passing rates for both groups in the course tracked (Sociology 101) were very high. Slightly more than half of the remediated students were enrolled in this class.

The difference between the remediated (71%) and non-remedial (79%) students with respect to cumulative GPA's at or above 2.0 was 9 percentage points. This difference met the standard.

The fourth semester retention rate for the remediated students (69%) exceeded that of the non-remedial students (56%). This met the standard. Similarly, the successful survival rate of the remedial students was higher (49% vs. 44%), again meeting the standard.

In summary, outcome indicators for this program were generally positive. Remedial program completion rates, subsequent course pass rates and subsequent GPA's were all good. Only on retest results (as in the previous cohort) did the program not meet the standard.

Writing

Placement Criteria. For the 1987 cohort, CCM used a NJCBSPT-SS score below 165 (which met the standard) and/or an essay below 7 to identify students for remediation (per Effectiveness Report narrative). The Annual Questionnaire for the 1987 cohort describes the placement criteria as below 165 on SS plus below a C grade in high school English. The college appears to continue to rely heavily on high school grades in the determination of remedial placement. Thirty percent of the full-time and 23% of part-time students were identified for remediation. While this represents an increase from the 23% full-time and 11% part-time reported for the 1986 cohort, these numbers appear low in the context of other community colleges.

Remedial Program Outcomes. Sixty-five percent of the full-time and 79% of the part-time students enrolled in remediation completed all requirements by the end of the spring 1989 semester.

Seventy-three percent of the students who completed remedial course work were within 1 SEM of the minimum score on the retest. This does not meet the 90% standard.

Subsequent Academic Performance. Full-time students completing remediation passed English Composition at about the same rate (92.6% vs. 93.2%) as non-remedial students. Passing rates for both groups were exceptionally high.

The percentage of cumulative GPA's at or above 2.0 for full-time students completing remediation was 67% compared with 79% for non-remedial students. This difference met the standard.

Remediated students returned in the fourth semester at a higher rate than the non-remedial students. This met the retention standard. Also, the SSR for the remediated students (44%) was higher than that of the non-remedial students (43%), which met the standard and was a reversal of the usual pattern.

In summary, as with the reading program at Morris, student outcome indicators (subsequent course pass rates, GPA's, retention and SSR's) are positive with the exception of the retest results. In addition, a question of possible underidentification of writing remediation was raised because of the placement criteria employed.

Computation

Placement Criteria. For the 1987 cohort, students scoring below 165 on NJCBSPT-MC who were enrolled in majors requiring mathematics were placed in remediation. While the 165 on MC met the standard, the policy of excluding students from computation based on their major is a questionable practice in light of the Board of Higher Education's policy that no student should be permitted to enroll in college courses for which he/she does not have the requisite basic skills. The percentage of full-time students identified for remediation included (only) 31% of full-time and 33% of part-time students. This represents an increase from 1986 when just 17% of the full-time and 13% of the part-time students were identified. The identification percentages appear low.

Remedial Program Outcomes. Sixty-nine percent of the full-time and 74% of part-time students enrolled in remediation completed all requirements by the end of the spring 1989 semester.

Nearly all (98.9%) of the students who completed remedial course work were within one SEM of the minimum score on the retest. Therefore, the retest standard of 90% was met.

Subsequent Academic Performance. Full-time remediated students passed their first college-level course at a rate which was five percentage points below non-remedial students (84% vs. 89%), which met the standard.

Sixty-seven percent of the full-time remediated students had GPA's of 2.0 or better as compared to 79% of the non-remediated students. This difference met the standard.

Remediated students were retained in the fourth semester at a higher rate than non-remedial students (64% vs. 55%). Thus the retention standard was met. Similarly, the difference between the groups on SSR was one percentage point (43% vs. 44%) which also met the standard.

In summary, for the relatively small percentage of students placed into computation at Morris the program appears strong. Every outcome standard was met.

Elementary Algebra

Placement Criteria. A NJCBSPT-EA score below 167 (which met the standard) and a major requiring algebra determined placement in remediation. Using these criteria, 18% of the full-time and 30% of the part-time students were identified for remediation, percentages far lower than those of comparable institutions.

Remedial Program Outcomes. Fifty-eight percent of the full-time and 70% of the part-time students completed remedial course work by the end of the spring 1989 semester. This completion rate was possibly adversely affected by the institutional practice of including "undecided" students (who later declared majors not requiring algebra) in the identified for remediation category. In addition, the math department has a policy whereby algebra remediation is postponed until the semester immediately preceding the college-level math course.

The retest standard of 90% was met since 96% of the students who completed remedial course work were within 1 SEM of the college's minimum score on the retest.

Subsequent Academic Performance. Full-time remediated students passed their first college-level course at nearly the same rate as non-remedial students (84% vs. 85%). This difference of only one point met the standard.

The percentage of GPA's at or above 2.0 was 71% for remediated students and 76% for non-remedial students. The difference of five points met the standard.

Remediated students returned in the fourth semester at a much higher rate than non-remedial students (74% and 53% respectively). As a result, the SSR for the remediated students was 12 percentage points above the SSR for the non-remedial students, a reversal of the typical pattern. Therefore, both the retention and the SSR standards were met.

In summary, as in the computation area, the algebra program displayed uniformly positive outcomes, meeting every standard. Also like the computation program, a question was raised, however, regarding underidentification of students for needed algebra remediation because of the placement procedures.

Overview

Strengths

Significant improvement was noted in the percentage of students tested. Nearly 100% of the 1986 and 1987 cohorts were tested.

The 90% enrollment within two semesters standard was met in reading, writing, and computation and, in all four areas, the standard of less than 5% present who had not yet enrolled in remediation was met.

In computation and algebra all of the standards for the subsequent academic performance indicators were met. The strong performance on these indicators suggests that the mathematics remedial program is effective for the students who are placed into it.

Retest results were well above the standard in computation and algebra.

Areas of Concern

Students were identified for remediation in computation based on cut-scores and major. This practice of exempting students from computation based on major is questionable in light of Board of Higher Education policy on remediation.

The continued apparent underidentification at Morris of students for remediation in writing, computation and algebra raises a special and continued concern because the college did not respond to these same concerns when raised in the public report on the 1984-1986 cohort. The outcomes at the college for the students who were placed into remediation were very positive, but these results are difficult to interpret given the large numbers of students who were not identified for or enrolled in remediation at the college.

The college continues to use high school grades in English of "C" or above to exempt students from remedial English. While the percentage of students identified for remediation increased for the 1987 cohort, it still appears that the college may be underidentifying remedial students.

The math department's policy of allowing deferral of algebra remediation appears to violate the notion that college students should enroll in needed remediation as soon as possible. In algebra, the percentage of students enrolled within two semesters was only 79%, well below the 90% standard.

The retesting standard was not met in reading and writing.

While there has been improvement, CCM continues to have inconsistencies in its reports. The different figures reported in the Annual Questionnaire and the Effectiveness Report for the same cohort made it difficult to assess the percentages of students identified and enrolled. Also the two reports had different descriptions of placement criteria. It would appear that the two reports need to be better coordinated.

OCEAN COUNTY COLLEGE

Policy Administration

In 1987, Ocean County College tested 96% of the full-time and 78% of the part-time students requiring testing. The full-time rate met the Board's minimum testing requirement but the part-time rate did not. In the last two effectiveness reports, the part-time percentage tested did not meet the standard.

Within two semesters the following percentages of full-time students identified for remediation were enrolled in appropriate courses: reading, 88%; writing, 91%; computation, 85%; and algebra, 53%. The 90% standard was met in writing but not in the other three skill areas. By the fourth semester the percentages of students who were identified for remediation but had not enrolled were reading, 1%; writing, 0%, computation 1%; algebra, no data given. The standard of no more than 5% was met in three skill areas and undetermined for algebra.

The standard for completion of retesting (95%) was not met in any skill area (reading, 55%; writing, 19%; computation, 71%; algebra, undetermined).

As noted in the 1984-86 report, Ocean has had a long history of difficulty in supplying complete and consistent data according to the guidelines of the Basic Skills Council. The institution attributes this to computer problems and changes in computer systems. In addition, the college has consistently under-tested its part-time student cohort. Since this group makes up a substantial proportion of enrollment (416 of 1,479), this is a serious shortcoming.

Remedial Areas

Reading

Placement Criteria. The college used a score of 166 on the NJCBSPT-RC as its criterion for placement, which met the standard. This resulted in 54% of the full-time and 51% of the part-time students being identified for remediation.

Remedial Program Outcomes. Of the full-time students enrolled in remedial reading, 64% successfully satisfied all remedial requirements by the end of spring 1989. Of the 376 students who completed reading remediation, 208 or 55% were retested, and 62% of these met the college's minimum or fell within one SEM of it, which did not meet the 90% standard.

Subsequent Academic Performance. Students who completed reading remediation at Ocean performed within two percentage points of the non-remedial students in the first (subsequent) college level course (99% to 97%) thus meeting the standard. For this analysis, only 93 of 302 completers were tracked into the subsequent college level courses, which may limit the significance of the results as representative of the cohort as a whole. However, 81% of the remedial completers had cumulative GPA's of 2.0 or better compared to 91% of the non-remedial students, which met the standard.

The retention rate of remediation completers was 73% vs. 66% for non-remedial students, which did meet the standard of no expected difference between the groups. The completers had a SSR of 59% compared to the 60% for the non-remedial students, again meeting the standard.

In summary, the program presents generally positive results. While the passing rate difference for first college-level course, percentage attaining at least a 2.0 GPA, and retention rate and SSR differences met standards, the retest results continue to present a problem. Further, the positive result in subsequent course passing rate was based on only a third of the program completers.

Writing

Placement Criteria. Placement in remedial writing at Ocean was accomplished using a cut-off composition score of 161, which did not meet the standard by two scaled score points. It should be noted, however, that the college offers for students scoring 161 to 165 a course that the college considers college-level but which the Council regards as remedial. In 1987, 29% of the full-time and 36% of the part-time test-takers were identified for remediation.

Remedial Program Outcomes. Of the full-time students enrolled in remedial writing, 82% successfully satisfied all the remedial requirements via coursework within four semesters. Part-timers completed the program at a rate of 55%. Only 50 student scores were available (of the 287 students who completed remediation) from the retesting. Of these, 72% of the students who successfully satisfied all remedial requirements attained the college's minimum score on the retest or were within one SEM of it. This percentage did not meet the 90% standard.

Subsequent Academic Performance. Remedial students passed their first college-level course at the rate of 94%, compared to 95% for the non-remedial students, which met the standard. It should be noted, however, that only 89 of 223 completers of writing remediation were followed up in the subsequent writing course for this analysis.

Completers of remediation were 12 percentage points behind their non-remedial counterparts in the percent cumulative GPA's at or above 2.0 (75% and 87% respectively); this difference met the standard.

Completers of remediation returned in the fourth semester at a lower rate than the non-remedial students (54% vs. 62%), which did not meet the standard. The SSR for the remediation-completed students was 41%, compared to 55% for the non-remedial students. The fourteen percentage point difference in SSR did not meet the standard.

In summary, the program appears weak and in need of a comprehensive review. The college used a placement criterion that may have underidentified students for writing remediation, and retested only a low percentage (19%) students completing remediation. Retest results were incomplete and those reported were weak. Although the standard on subsequent course passing rate was met, the statistic was based on a small number of the completers. Further, the retention and SSR standards were not met.

The follow-up data on students in the program are incomplete, suggesting that much is not known about the total outcome picture. In addition, administrative practice at the college results in many students escaping testing (over 100 part-timers).

Computation

Placement Criteria. Ocean placed students in computation using a cut-score of 166 on the NJCBSPT-MC, which met the standard. Thirty-seven percent of full-time and 51% of part-time students were identified as needing remediation in computation.

Remedial Program Outcomes. Of the full-time students who enrolled in computation, 84% successfully satisfied all the requirements by Spring 1989. Part-timers also had an 84% completion rate. Of the students retested upon completion of the remedial requirements, 94% met the college's minimum or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. The passing rate in the first (subsequent) college-level math course for remediated students was 87%, three percentage points below the passing rate for non-remedial students in the same courses (90%), which met the standard. Eighty-one percent of the remediated students attained a cumulative GPA at or above 2.0, seven points below the performance of the non-remedial comparison group (88%). This difference also met the standard.

The retention rate for completers of computation (61%) was lower than that for the non-remedial students (62%), which did not meet the standard, by one percentage point. Remediated students had an SSR of 49%, compared to 54% for the non-remedial students. The difference in SSR's met the standard.

In summary, the computation program displays generally positive outcomes. Outcome standards were met with the exception of retention, which missed by one percentage point. However, the college needs to address the low number of identified students enrolling within two semesters, as well as the percentage being retested in computation.

Elementary Algebra

Placement Criteria. In 1987, an NJCBSPT-EA score of 169 was used for remedial algebra placement at Ocean. This cut-off score met the standard, and was two scaled score points above it. Seventy-one percent of the full-time and 86% of the part-time students at Ocean would have been identified for algebra remediation. However, according to the college,"...because the college uses a two-level prerequisite remedial placement procedure and not a required remediation approach and because there are a number of college-credit math courses that do not have an algebra remediation prerequisite, the actual number required to take one or two levels of algebra remediation is impossible to determine."

Remedial Program Outcomes/Subsequent Academic Performance. The college reported that there were no outcome data available for students remediated and present in the fourth semester.

In summary, the algebra program at Ocean could not be evaluated because of the lack of available information. The college's policy of not treating remedial algebra as a basic skill for all students who score below the placement criteria will change by the fall 1992 semester according to the statewide mandate of the Board of Higher Education.

Overview

Strengths

The college tested 96% of full-time students.

In general, the number of students identified as needing remediation and remaining in the fourth semester was low. The only exception was part-time students in computation and all students in algebra.

The reading program displayed adequate results on student outcome measures with the exception of retesting.

The computation program displayed adequate results on student outcome measures with the exception of retention.

Areas of Concern

The writing program appears weak. In addition to undertesting of part-time students and underidentification via low placement criteria, student outcome measures are poor according to available data and the available data were often small samples of the cohort.

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Testing of part-time students continues to be a problem at Ocean. The Board's 90% standard was not met for any cohort from 1984 through 1988. The college did not respond to a Chancellor's letter of inquiry on this issue in 1989.

The college should address the low number of part-time students being enrolled in the appropriate courses in a timely fashion. This has been an area of concern in the past reports.

The standard for rate of retesting remediated students was not met in any skill area. The college reported that it has improved its system for retesting students. Unfortunately it also reported that much of the retest data for the 1987-89 cohort was lost because of erased computer tapes.

The testing and follow-up of algebra students present a serious problem. This has been a problem for past cohorts. The college indicated that it will comply by 1992 with the Board of Higher Education policy on enrollment in algebra remediation for all students who fall below the placement minimum.

Ocean continues to give credit to courses that are labeled as "developmental." The college's responses to the questions on this issue in the Annual Basic Skills Questionnaire and in the Effectiveness Report narrative are discrepant.

There was a small number of reading and writing students followed in the subsequent courses.

PASSAIC COUNTY COMMUNITY COLLEGE*

Policy Administration

Passaic County Community College did not test the required percentage of students, either full-time or part-time, for this cohort. In Fall 1987, the full-time rate was 82%; for part-time it was 32%; neither met the standard. These rates represent a drop from prior years. (According to data available for the more recent 1988 cohort, the college has met the 90% standard for full-time students and reached 81% for part-timers.)

Of the full-time students identified for remediation in Fall 1987, the college enrolled 100% in writing, 96% in computation, and 100% in algebra within two semesters. In reading, students were enrolled at a rate of 98% which met the 90% standard. The rate of enrollment in reading had been higher and met the standard in previous cohorts (95% in 1986 and 99% in 1985).

The percentage of full-time students identified for remediation who had not yet enrolled for the appropriate course in the fourth semester met the standard in two skill areas, writing (4%) and algebra (3%). The rates in reading (8%) and computation (11%) did not meet the standard for the Fall 1987 cohort but had met it for the two prior cohorts.

The college reported the following percentages for retesting students who had successfully completed remediation: reading, 83%; writing, 26%; computation, 75%; and algebra, 41%. None of these met the minimum standard of 95%.

Passaic County Community College has made a considerable effort in testing and placing students in remedial courses. The percentage of part-time students tested, a criticism in prior reviews, has moved up from 32% to 81%. However, the rate of retesting of students who successfully complete remediation needs to be improved.

**It is important to note several special circumstances regarding Passaic County Community College. First, Passaic had such low retention of full-time students over the period in question that the sizes of the various comparison groups were frequently so small as to make any interpretation of the results unreliable. For example, only 3 students (13%) of the non-remedial group in reading returned in the fourth semester. Second, the majority of students left the college without having finished remedial work. For example, of the 68 students who needed reading remediation and who had not completed it by the end of the third semester, only 8 (12%) returned in the fourth semester. Third, very small numbers of non-remedial students are available for comparison purposes. All groups are further attenuated by both "stop-outs" and frequent changes from full-time to part-time status. Part-time students outnumbered full-timers by about four to one.*

Fourth, the basic skills cohort reported on here constitutes only about one-third of the actual class; the rest were ESL/bilingual students. The college uses the Spanish translation of the NJCBSPT mathematics test (a recommended practice) but students placed into remediation as a result are not included in the cohort for analysis. It would be impossible to provide a balanced view of Passaic's special challenge and effort without studying that sizeable component as well.

Remedial Areas

Reading

Placement Criteria. The placement criteria for reading was based on an algorithm "generally corresponding to RC score of 165." The algorithm was not described. The college's subsequent "Effectiveness Report" narrative simply listed the score of 165, which met the standard. Eighty- five percent of the full-time and 82% of the part-time students tested were identified for remediation.

Remedial Progr[illegible] Outcomes. Full-time students who were enrolled in remediation completed the requirements at a rate of 27%; part-time students at a rate of 23%. Seventy-five percent of students who passed their remedial courses attained the college's minimum on the retest or fell within one SEM of it, which did not meet the standard.

Subsequent Academic Performance. The model of evaluation developed by the Basic Skills Council for assessing remedial programs is based on making comparisons, on multiple indicators, between those who did not need remediation and those completing remediation. Since there are insufficient data available for these groups, no reliable comparisons can be made. (See the footnote on the first page.) The statistics for the subsequent academic performance were as follows: passing (subsequent) college-level course (71%, n=17); subsequent GPA at or above 2.0 (47%, n=15); retention rate (58%, n=15); SSR (27%, n=7).

Writing

Placement Criteria. The college states that an algorithm is used which "generally corresponds to an Essay score less than 9 and a SS less than 165." The scores meet the standard. The college identified 89% of the full-time students and 86% of the part-timers for remediation in writing.

Remedial Program Outcomes. The completion rate for full-time students was 33%; the part-time rate was 26%. Of those students who passed the remedial course, 94% attained the college's minimum on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. The model of evaluation developed by the Basic Skills Council for assessing remedial programs is based on making comparisons, on multiple indicators, between those who did not need remediation and those completing remediation. Since there are insufficient data available for these groups, no reliable comparisons can be made. (See the footnote on the first page.) The statistics for subsequent academic performance were as follows: passing (subsequent) college-level course (53%, n=17); subsequent GPA at or above 2.0 (48%, n=21); retention rate (62%, n=21); SSR (30%, n=10).

Computation

Placement Criteria. The college reported using an algorithm which "generally corresponds to MC 165." The score meets the standard. The college identified 93% of the full-time students and 84% of the part-timers for remediation in computation.

Remedial Program Outcomes. Full-time students completed the remedial program at a rate of 30%; part-time students, 20%. Eighty-nine percent of the students who completed remediation attained the college's minimum on the retest or were within one SEM of it, which missed the standard by one percentage point.

Subsequent Academic Performance. The model of evaluation developed by the Basic Skills Council for assessing remedial programs is based on making comparisons, on multiple indicators, between those who did not need remediation and those completing remediation. Since there are insufficient data available for these groups, no reliable comparisons can be made. (See the footnote on the first page.) Statistics for subsequent academic performance were as follows: passing (subsequent) college-level course (no data); subsequent GPA at or above 2.0 (50%, n=14); retention rate (45%, n=14); SSR (23%, n=7).

Elementary Algebra

Placement Criteria. The raw score algorithm that the college reports using "generally corresponds to MC 165 and EA 176." These scores meet the standard. The college identified 98% of the full-time students and 96% of the part-timers as needing remediation in algebra.

Remedial Program Outcomes. Of the students who enrolled in remedial algebra, 44% of the full-timers and 100% of the part-timers completed all remedial requirements. Seventy-three percent of the students who completed the algebra requirements attained the college's minimum on the retest or were within one SEM of it, which did not meet the standard.

Subsequent Academic Performance. The model of evaluation developed by the Basic Skills Council for assessing remedial programs is based on making comparisons, on multiple indicators, between those who did not need remediation and those completing remediation. Since there are insufficient data available for these groups, no reliable comparisons can be made. (See the footnote on the first page.) Statistics on subsequent academic performance were as follows: passing rate in (subsequent) college-level course (no data); subsequent GPA at or above 2.0 (63%, n=8); retention rate (44%, n=8); SSR (28%, n=5).

Overview

Strengths

Passaic Community College is improving in its job of testing all students who are required to be tested. In 1987, testing rates dropped below 90% for full-time students but they returned to over 90% in Fall 1988, as reported in the annual questionnaire for 1988. The testing of part-time students has jumped from 32% in 1987 to 81% in 1988.

The college has made a strong attempt to ensure that full-time students who are deficient in basic skills enroll in remediation within their first two semesters. Board of Higher Education policy requires 90% enrollment in each remedial area. This target is reached for writing (100%), computation (96%), and elementary algebra (100%).

Areas of Concern

In the areas of reading, computation, and algebra, students passing remediation do not meet the standard for performance on the retest. The small numbers of students for whom there are data on performance in subsequent college-level courses make it extremely difficult to assess these programs.

Completion rates in all areas are very low. The one exception is among part-time students in algebra, where all who needed remediation completed it successfully.

Suggestions for Further Inquiry

The narrative portions of the college report suggest that there are more students (i.e., ESL/bilingual programs, ESL students in math) completing remediation than appear in the tables of the effectiveness report. Every effort should be made to establish a secure data base so that the relative successes of the program may be documented in order to provide feedback to the practitioners and more reliable and valid assessment.

RARITAN VALLEY COMMUNITY COLLEGE

Policy Administration

Raritan Valley Community College tested virtually all of its 1987(-89) entering students who were required to be placement tested -- 100% of the full-time students and 99% of the part-time students. Both rates not only met the minimum standard but have been commendably consistent for at least five consecutive years.

In each skill area, Raritan Valley Community College met the minimum expectation for enrollment of full-time students in needed remediation within two semesters. The two-semester enrollment percentages by remedial area were: 97% in reading, 97% in writing, 100% in computation and 93% in elementary algebra. In reading and writing, these figures were consistent with those reported for the prior two cohorts; in computation and algebra, the rates were consistent with those for the 1985(-87) cohort but were markedly higher (i.e., improved) than those reported for the 1986(-88) cohort. Not surprisingly, in no remedial area were more than two identified, full-time students present in the fourth semester who had not yet begun the appropriate remedial courses (i.e., the four rates ranged 0-1%), which met the standard.

Of the students who successfully completed remedial requirements through course work, the percentages who were retested in each area were as follows: 95% in reading, 93% in writing, 99% in computation, and 99% in elementary algebra. Each of the retest "capture" rates except that for writing met the standard; the rate in writing missed the standard by two percentage points.

Remedial Areas

Reading

Placement Criteria. In reading, Raritan Valley Community College used as a placement criterion a score of 162 on the NJCBSPT-RC. The criterion met the standard and was above it by one scaled-score point. Of the students tested, 39% of the full-time and 34% of the part-time students were identified for remediation in reading (either "Effective Reading" or the upper-level "Critical Reading" course, depending on placement score).

Remedial Program Outcomes. Of the students enrolled in remedial courses, 82% of the full-time and 82% of the part-time students had successfully completed the program by the fourth semester. Eighty-four percent of the students who were retested upon completion of the program attained the college's minimum score on the retest or fell within an SEM of it, which missed the standard by six percentage points.

Subsequent Academic Performance. In reading, the first (subsequent) college-level course passing rate for students completing remediation was 77%; the corresponding figure for non-remedial students was 78%. The nearly matching rates met the standard. GPA's of "C" or above were attained by 64% of those who completed the remedial reading program, and by 80% of their non-remedial counterparts. The 16 percentage-point differential between these rates missed the standard by one percentage point, but nonetheless indicated a substantial improvement over corresponding data for the two prior cohorts. Moreover, the institution reported that "current college efforts to improve retention and student success are aimed at further narrowing this gap."

In the area of retention, program completers and non-remedial students returned in the fourth semester at the rate of 51% and 49% respectively. This difference in favor of the remediated students met the standard and indicated improvement since the previous round of review. Those who had completed the remedial reading program posted an SSR of 32%, while the non-remedial comparison group's SSR was 39%; the seven percentage-point difference between the rates met the standard.

In sum, results for the reading program, although mixed, indicated improvement on several indicators since the last round of review. It should be kept in mind that one of the indicators of apparent difficulty -- percent GPA at or above "C" -- was missed by only a single percentage point and nonetheless indicated a substantial improvement over prior cohorts.

Writing

Placement Criteria. In writing, Raritan Valley Community College used as a placement criterion a score of 162 on the NJCBSPT-SS. Students who scored 162-172 on that test and whose scores on the Essay fell below 7 were also identified for remediation. These criteria met the standards. Of the students tested, 35% of the full-time and 43% of the part-time students were identified for remediation in writing.

Remedial Program Outcomes. Of the students enrolled in remedial writing instruction, 81% of the full-time and 72% of the part-time enrollees had successfully completed the program by the fourth semester. Ninety-four percent of the students who satisfied all remedial requirements and were retested attained the college's minimum score on the retest or scored within an SEM of it, which met the standard.

Subsequent Academic Performance. The subsequent-course passing rate for those who completed the remedial program in writing was 80%; for non-remedial students the corresponding figure was 84%. The difference met the standard. The proportion of remediated students who attained a GPA of "C" or greater was 62%, and for the non-remedial students it was 80%; the 18 percentage-point difference did not meet the standard.

With regard to retention, program completers returned in the fourth semester at a rate of 51%, thus outperforming their non-remedial counterparts (42%) and meeting the standard. In addition, the retention result reflected improvement from the previous cycle of review. It should be noted, however, that the non-remedial retention rate was quite low. The SSR for program completers was 32%, as compared to 34% for the non-remedial comparison group; the difference met the standard.

In summary, student outcomes for the remedial writing program were uniformly positive, with exception of the GPA indicator (which missed the standard by three percentage points). In addition, results on the retention indicator were improved over those reported for the previous round of review.

Computation

Placement Criteria. In computation, Raritan Valley Community College used a cut-score of 165 on the NJCBSPT-MC, which met the standard. Of the students tested, 36% of the full-time and 48% of the part-time students were identified for remediation in computation.

Remedial Program Outcomes. Of the students enrolled in remediation, 74% of the full-time and 68% of the part-time students had successfully completed the program by the fourth semester. By local policy, computation students at Raritan Valley Community College were required to attain the institution's minimum score on the retest in order to complete the program. Consequently, 100% of those retested attained the minimum cut-score, which met the standard.

Subsequent Academic Performance. The first (subsequent) college-level course passing rate for students who completed the remedial program in computation was 66%, as compared to 75% for the non-remedial students; the nine percentage-point differential did not meet the standard. A GPA of "C" or above was attained by 67% of those who completed the computation program, and by 79% of their non-remedial counterparts. This 12 percentage-point difference met the standard and indicated improvement over results for the previous cohort.

The rate of return in the fourth semester for remediated students was 48%, compared to 46% for the non-remedial comparison group. The margin, which favored completers over the non-remedial students, met the standard. The SSR posted by the remediated students was 32%, while for their non-remedial counterparts the rate was 37%; the difference met the standard.

In computation, overall, the differential between remediated and non-remedial students' passing rates in the first (subsequent) college-level course was a negative result that detracted from the otherwise positive indications. The seeming contradiction between students demonstrating strong retest results (albeit by local policy) on the one hand but a lack of direct carry-over to the subsequent college-level courses on the other is an area worthy of exploration.

Elementary Algebra

Placement Criteria. In algebra, Raritan Valley Community College used a cut-score of 167 on the NJCBSPT-EA, which met the standard. [The criterion was raised to 171 in 1989.] In 1987, 27% of the full-time and 28% of the part-time test-takers were identified for elementary algebra. These relatively low percentages reflected the high proportion of students enrolled in curricula which did not require algebra. The college has indicated that it "will require remediation in elementary algebra of all students who fall below our placement standards beginning in the Fall, 1991."

Remedial Program Outcomes. Forty-seven percent of the full-time and 61% of the part-time students who began the program had successfully completed it by the fourth semester. One hundred percent of those who satisfied all remedial requirements attained the college's minimum score on the retest (which met the standard), as this was a requirement for passing the course.

Subsequent Academic Performance. Those who completed the remedial program in algebra passed the first (subsequent) college-level course at a higher rate than the non-remedial students (83% vs. 74%), which met the standard and appeared to be a particularly favorable outcome. In as much as this follow up was based on a small number of students (35), however, the results were viewed with caution. On the broader academic indicator, cumulative GPA's of "C" or greater were attained by 75% of the remediated students, and by 78% of their non-remedial counterparts; the difference met the standard.

With regard to retention, 98% of the remediated students returned in the fourth semester, compared to only 35% of the non-remedial comparison group. This wide difference in favor of remediated students met the standard. The 98% retention rate for remedial students was exceptional in of itself. The 35% retention rate for non-remedial students, on the other hand, was unusually low and merits a close look by the college.

The SSR for completers of the remedial algebra program was 74%, as compared to only 27% for the non-remedial students. The wide difference in SSR met the standard and was a reversal of the typical pattern.

In conclusion, the 1987(-89) student outcomes for the remedial algebra program were uniformly positive, and therefore highly indicative of a successful remedial effort for the students placed in the program. This successful pattern was evident across several cohorts of data.

Overview

Strengths

Raritan Valley Community College has a commendable record of testing nearly 100% of its entering students over several consecutive years. Similarly, the college succeeded in enrolling within two semesters over 90% of its identified students in the required remedial courses in all skill areas.

The college administered retests to virtually all students who completed its remedial reading, computation and elementary algebra sequences. In the remedial mathematics areas, 100% of the students who completed the programs attained the college's minimum retest scores (albeit by local policy).

Retention and SSR comparisons were favorable across all four remedial areas. For reading and writing the retention results had improved significantly since the last round of review.

Outcome indicators in the elementary algebra area were uniformly positive, a pattern that has held over several years with only minor exception. This argued convincingly for a successful remedial effort.

Student outcomes in writing were uniformly positive, with exception of the GPA indicator (which missed the standard by only three percentage points). Moreover, in the reading and computation programs completers of remediation registered strong levels of performance relative to their non-remedial counterparts on at least three of the five student outcome indicators. Results for all three programs were highly consistent with (or else improved over) those compiled for the prior two cohorts, suggesting a strong degree of stability in favor of the programs.

Areas of Concern

In the writing area, the rate of retesting students upon completion of remediation should be raised in keeping with the minimum standard.

The retest results in reading and weak first (subsequent) college-level course comparison in computation merit examination by the institution.

Suggestions For Further Inquiry

In the course of the review, questions surfaced about the low retention of non-remedial students, particularly as reported for the writing and elementary algebra areas. This clouded interpretation of the retention and SSR indicators, and raised the possibility of "false-positive" results on these indicators. In the future, it would be helpful for the institution to provide contextual information that might help to interpret these outcomes.

In computation, the paradox of a strong retest performance (albeit by local policy) on the one hand and an apparent lack of sufficient carry-over to the first (subsequent) college-level courses on the other is an area that the college ought to investigate.

SALEM COMMUNITY COLLEGE

Policy Administration

In 1987, Salem administered placement tests to 82% of its full-time and 97% of its part-time students requiring testing; the part-time testing rate met the standard but the rate for full-time students fell short of the minimum testing requirement. The inadequate full-time testing rate, although cause for concern, appeared to be an uncharacteristic break from the consistently high testing rates for full-time students (ranging from 93% to 100%) reported since 1983 and for the more recent 1988 cohort as well. Moreover, data discrepancies between the institution's response to the Annual Basic Skills Questionnaire and its report on remedial program effectiveness raised questions about the accuracy of the 1987 testing percentages. These and other inconsistencies, due in part to the loss of data "between the Fall 1987 semester and the date the questionnaire was filed," were acknowledged in the institution's 1987(-89) report.

The above data discrepancies added to the difficulty of assessing rates of enrollment in remedial programs. For the 1987 cohort, Salem reportedly enrolled the following percentages of identified, full-time students in appropriate remedial courses within two semesters: 96% in reading, 94% in writing, 90% in computation and 35% in elementary algebra. The above enrollment rates for reading, writing and computation (if accurate) met the standard but the rate for elementary algebra did not. The two-semester enrollment rate for reading reflected improvement since the previous cycle of review; however, data reported in response to a more recent Annual Questionnaire (86% for 1988-89) pointed to a continuing problem with meeting the minimum two-semester enrollment expectation in reading.

By the fourth semester, the percentages of full-time students who had not yet enrolled in their prescribed remedial courses in each skill area (range: 2-4% of the identified students present in the fourth semester) met the minimum standard. Salem reported retest "capture" rates across the skill areas ranging from 34% to 73% (59% in reading, 73% in writing, 62% in computation and 34% in algebra), none of which met the standard. The institution attributed these low rates to the loss of retest (and other) information stemming from the lack of computerized storage and retrieval of retest scores. Further, the report explained that "data on Table E reflects what we have been able to obtain from faculty records."

Remedial Areas

Reading

Placement Criteria. In 1987, the college used a placement cutoff score of 167 on the NJCBSPT-RC, which met the standard and was above it by six scaled-score points. In addition, the Stanford Diagnostic Reading Test was used to confirm initial placement decisions. As a result, 72% of the full-time and 65% of the part-time students were identified for reading remediation.

Note that between 1984 and 1987, Salem raised its NJCBSPT-RC cutoff score from 163 to 167, in two steps. As a rule, one would expect to see concomitant changes in identification rates. Curiously, however, rates of remedial identification for full-time students increased most dramatically from 1986 to 1987 (from 49% to 72%) when the cut-score reportedly was stable, whereas the rates for part-time students seemed more closely to mirror changes in criteria. The volatility in identification rates raised questions about the placement practices employed on campus, and in particular the role of the Stanford Diagnostic Reading Test and "faculty initiated drop adds" in placement decisions.

Remedial Program Outcomes. Sixty-three percent of the full-time and 57% of the part-time students who enrolled in the reading program satisfied their remedial requirements by the end of the fourth semester. Of the 45 students who completed remediation and for whom retest scores were available, only 53% attained the college's minimum level on the retest or fell within one SEM of it, which did not meet the standard. Of even greater concern (and contrary to the Basic Skills Council's guidelines), the college used a retest cutoff score (NJCBSPT-RC 161) which was six scaled-score points lower than the institution's own placement cut-score; results for this indicator would have been even lower (ca. 40%) had the college employed the appropriate minimum retest score.

Subsequent Academic Performance. Completers of remediation outperformed the non-remedial students in the first (subsequent) college-level courses (passing rates: 86% vs. 79%), which met the standard and revealed improvement over the previous two cohorts (i.e., 1985 & 1986). Lack of agreement between the reported aggregate information and data provided for each separate course in the composite, however, cast doubt on the accuracy of this comparison. The percent of remediated students with cumulative GPA's greater than or equal to 2.00 (85%) fell only six percentage points lower than the comparable percentage for non-remedial students (91%), which not only met the standard but continued a steadily improving trend since the previous round of review.

Fifty-seven percent of the remediated students returned in the fourth semester, compared to 62% of the non-remedial students; the difference did not meet the standard. Similarly, the SSR comparison yielded 49% vs. 57% respectively, which missed the standard by one percentage point. Despite missing the standards, the 1987 retention and SSR outcomes represented improvement over results for previous cohorts.

In summary, outcomes for Salem's remedial reading program were mixed, with occasional indications of improvement. Nevertheless, the unsatisfactory retest results, discrepancy between placement and exit criteria, and weak retention and SSR comparisons are causes for concern.

Writing

Placement Criteria. Salem used a NJCBSPT-SS score of 162 as the cut-score for remedial writing placement, which met the standard and differed by only one point from previous years. In addition, the NJCBSPT-Essay [locally scored] "may be used as a criterion when the student scores within a point above or below the cutoff." Unspecified "instructor developed assessments" were also administered during the first week of classes to confirm placement. In 1987, 55% of full-time and 38% of part-time students were identified for remediation in writing.

Remedial Program Outcomes. Fifty-three percent of the full-time and 63% of the part-time students who began remediation satisfied their remedial requirements by the end of the second year. Of the 35 students who completed remediation and for whom retest scores were available, 80% attained the college's minimum level on the retest or fell within one SEM of it, which did not meet the standard.

Subsequent Academic Performance. Eighty-three percent of the students who completed writing remediation passed the first (subsequent) college-level course, as compared to 78% for the non-remedial students; the difference met the standard. However, the cumulative GPA comparison was not as favorable: 68% vs. 91% respectively had GPA's greater than or equal to "C," and the 23 percentage-point difference did not meet the standard.

The relative rate of retention for students in the 1987 cohort -- 61% for remediated students vs. 56% for the non-remedial comparison group -- met the standard and was an improvement over previous cohorts. However, the SSR comparison missed the standard by two percentage points (42% vs. 51% respectively).

Thus, the remedial writing program at Salem exhibited mixed signs of effectiveness.

Computation

Placement Criteria. After raising its NJCBSPT-MC cut-score a point in 1986, Salem again lowered it by two in 1987 to 160, which missed the minimum standard by 5 points. [In 1988, Salem raised the cut-score to 164, 1 point shy of the standard.] Placement in computation, as in other skill areas, was adjusted through use of an unspecified, locally developed "confirming" instrument. Of the students tested in 1987, 63% of the full-time and 59% of the part-time students were identified for computation. Identification rates over the past several cohorts were highly variable for both full- and part-time populations, with rises and drops seemingly out-of-synch with reported changes in placement criteria. The lack of correspondence between shifts in placement criteria and fluctuations in identification rates raised questions about the placement practices and policies in remedial mathematics.

Remedial Program Outcomes. Seventy-five percent of full-time students from the 1987 cohort who began computation completed their remedial requirements by the end of the fourth semester; and 71% of the part-timers did so. Of the 36 students who satisfied their remedial requirements via course work and for whom retest scores were available, 89% met the college's minimum retest score (NJCBSPT-MC 160) or fell within one SEM of it, which did not meet the standard. [Had the institution used a retest cut-off score of 165, this result would have dropped to 78%.]

Subsequent Academic Performance. Completers of computation remediation passed their first (subsequent) college-level course at a rate comparable to that for non-remedial students (92% vs. 91%), which met the standard and represented improvement from the previous review cycle (note: this comparison was based on 12 and 11 students respectively). On the cumulative GPA indicator, 86% of the remediated students and 81% of the non-remedial students attained GPA's at or above "C," which also met the standard and indicated improvement from the previous review cycle. Similarly improving trends were noted for retention (59% vs. 55% respectively, which met the standard) and SSR (51% vs. 45% respectively, which met the standard).

In sum, outcomes for the computation program at Salem were mixed (but improved from previous review cycles), with weak retest results detracting from the otherwise generally positive results.

Elementary Algebra

Placement Criteria. Placement into algebra remediation was curriculum-dependent at Salem and continued to be so as of the 1988 cohort. [The college intends to have a mandatory elementary algebra requirement in place as of Fall 1992.] In 1987, the placement cut-off score used was NJCBSPT-EA 169, which met the minimum standard and was two points above it. Faculty-developed instruments were also administered during the first week of class and placements shifted accordingly. Therefore, as in two of the other three skill areas, shifts in placement decisions on the basis on local instruments may account for the erratic identification rates observed across cohorts. Identification rates were as follows for 1987: 39% for full-time and 40% for part-time students.

Remedial Program Outcomes. Seventy-eight percent of the full-time students who began elementary algebra satisfied all their requirements by the end of the fourth semester (14% through means other than course work), and 75% of the part-timers did so (5% through means other than course work). One hundred percent of the students who satisfied their remedial requirements through course work and were retested (only 13 students) attained the college's minimum retest score (NJCBSPT-EA 168) or fell within one SEM of it, which met the standard.

Subsequent Academic Outcomes. Ninety-five percent of the students in 1987(-89) who completed remediation in algebra passed the first college-level course as compared to 89% of the non-remedial students, which met the standard and was an improvement from the past several cohorts. Similarly, 83% of the remediated students had a cumulative GPA of "C" or better as compared to 88% of the non-remedial comparison group, which met the standard.

Eighty-three percent of the students who completed remediation returned in Spring 1989 as compared to only 39% of the students who were not identified for remediation; the exceptionally large difference in favor of completers met the standard. Not surprisingly, therefore, the SSR of the remediated group (69%) exceeded that of the non-remedial comparison group (34%), which met the standard and was a reversal of the typical pattern.

Thus, the 1987-89 student outcomes for the remedial algebra program, for the students who were placed into the program, were uniformly positive. This pattern speaks well for the elementary algebra program at Salem.

Overview

Strengths

Salem has consistently met the minimum expectation for placement testing its part-time students and, with exception of the 1987 cohort, its full-time students as well.

The College appears to have reversed a long trend of low enrollments in computation. In addition, in 1987 it also successfully met the two-semester enrollment expectation in the reading and writing areas. By the fourth semester, nearly all identified, full-time students who were present on campus had begun their prescribed remedial courses in each of the four skill areas.

Student outcomes for elementary algebra were uniformly positive, and therefore strongly indicative of a successful remedial effort for the students who enrolled in the program.

The first (subsequent) college-level course performance comparisons for all skill areas were favorable.

Evidence of improvement over outcomes for previous cohorts was uncovered during review of each of the skill areas.

Areas of Concern

Discrepancies in Salem's reported data and the disclosed loss of key elements (including retest scores) indicate a significant problem in the institution's data management and reporting practices. These shortcomings require immediate attention.

The apparent break (in 1987) from the otherwise consistently high testing rates for full-time students merits investigation.

The college fell short of the minimum two-semester enrollment expectation in elementary algebra. In addition, despite evidence of improvement, there appears to be a continuing problem with meeting the minimum enrollment requirement in reading.

The "capture" rate for retesting was disturbingly low across all the skill areas. The absence of comprehensive retest data made it difficult to interpret outcomes on the other indicators.

The year-to-year fluctuations in placement criteria, volatility in identification rates (seemingly without correspondence to changes in criteria), and disjunctures between placement and exit criteria (especially in reading) all underscore the need to reexamine how placement and exit decisions are made across the skill areas and the extent to which faculty are permitted to adjudicate placement decisions. Similar criticisms were made in the last round of review, but no response from the college was received.

In particular, the college needs to bring its computation placement criteria in line with minimum requirements.

The weak retest performance in reading, writing and computation, and below-standard GPA (in writing), retention (in reading) and SSR (in reading and writing) outcomes are causes for concern.

SUSSEX COUNTY COMMUNITY COLLEGE COMMISSION*

Policy Administration

In 1987, Sussex County Community College Commission tested 100% of the full- (n=54) and part-time (n=322) students requiring testing, which met the standard and was comparable to the commendable rates reported for the past several cohorts.

Of the full-time, identified students in each skill area, Sussex succeeded in enrolling in remediation within two semesters 100% (n=19) of the reading, 100% (n=17) of the writing, 100% (n=36) of the elementary algebra and 96% (n=26) of the computation students. These enrollments rates met the minimum two-semester enrollment expectation (as did those for the 1986 cohort) and represented a significant improvement over the results reported for the 1985 cohort. Similarly, by the fourth semester all identified, full-time students who were present had begun the necessary remedial courses in reading, writing and computation, which met the standard. Six percent of the full-time students identified for elementary algebra had not yet begun remediation by the fourth semester, which missed the standard by one percentage point. However, it should be noted that the 6% value represented only two full-time students.

Sussex retested 100% of the students requiring retesting in each of the four skill areas, which met the standard.

Remedial Areas

Reading

Placement Criteria. In 1987, Sussex used 165 as its NJCBSPT-RC cut-off score, which met the standard and was above it by four scaled-score points. Thirty-five percent of the full- and 30% of the part-time students were identified for reading remediation. Note that the reading and writing programs at this institution had been integrated previously.

Remedial Program Outcomes. Seventy-nine percent of the full- and 31% of the part-time enrollees completed remediation in four semesters. Of the students retested, 65% (n=37) attained the institution's

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**Before 1987, Sussex County Community College Commission (SCCCC) was responsible for the testing and tracking of only its part-time students; by contract, full-time students enrolled in County College of Morris (CCM) and were reported with that institution's data. Beginning in Fall 1986, when Sussex began offering degrees in business and liberal arts, the Commission also began testing and remediating the full-time students in the new degree programs. As of Fall 1987, most full-time, tested students who were identified for remediation completed their remedial/developmental instruction at SCCCC. However, those students who needed remedial instruction along with a degreed program not available at SCCCC were permitted to take remediation at CCM (and were reported on by that institution). Part-time students were "encouraged" to do their remedial work at SCCCC but the institution was "responsive to their varying needs." In addition, Sussex provided testing and remedial instruction for Upsala College's (Wirth Campus) full- and part-time students, whose data are reportedly included here. Note that the part-time student population at SCCCC outnumbered full-timers about 6:1, and therefore the assessment of student outcomes by definition (save for retesting) missed most of the students who were served by the program. Given that the outcomes reviewed here were generated by a relatively small number of students, the results should be viewed with caution.*

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minimum level or scored within one SEM of it, which missed the standard by a wide margin and indicated a decline from previous years.

Subsequent Academic Performance. Ninety-three percent of the remediated and 89% of the non-remedial students passed the first (subsequent) college-level courses, which met the standard. Seventy-eight percent of the remediated and 100% of the non-remedial students attained cumulative GPA's of at least a "C" in the fourth semester; the 22 percentage point difference did not meet the standard. However, this comparison was based on a total of 18 students, nine in each study group. In contrast, 86% of the remediated students and 90% of the non-remedial students in the 1986(-88) cohort had GPA's of "C" or better, which met the standard.

Sixty percent of the remediated students and 26% of the non-remedial students returned in the fourth semester. This 34 percentage point difference in favor of remediated students met the standard. The SSR of the remediated students (47%) exceeded that of the non-remedial comparison group (26%) by 21 percentage points, which met the standard and was a reversal of the typical pattern.

Overall, the pattern of outcomes for Sussex's remedial reading program was mixed, with performance declines seemingly evident on the retest and GPA indicators. The results should be interpreted with caution, however, because of the relatively small number of full-time students (n=19) serviced by the program (of which only nine were present in the fourth semester).

Writing

Placement Criteria. For remedial placement in 1987, Sussex used an NJCBSPT-SS cutoff score of 165 (which met the standard and was above it by four scaled-score points) or a 7 on the Essay (which met the standard), plus consideration of the Composition score and "other records." The "other records" and specific role of the Composition scores were unspecified. In 1987, 32% of the full- and 23% of the part-time students were identified for writing remediation.

Remedial Program Outcomes. Seventy-seven percent of the full-time enrollees and 31% of the part-time enrollees completed the remedial program within four semesters. Of the 29 students retested, 72% attained the institution's minimum retest level or fell within an SEM of it, which did not meet the standard and reflected a decline in performance from previous years. On the other hand, 93% of the students attained the institution's minimum retest level on the locally scored Essay or fell within an SEM of it, which met the standard.

Subsequent Academic Performance. Ninety-one percent of the remediated students and 80% of the non-remedial comparison students passed the first (subsequent) college-level course. This 11 percentage-point difference in favor of remediated students met the standard. Eighty-nine percent of the remediated students and 100% of the non-remedial students attained cumulative GPA's of "C" or better; the 11 percentage-point difference met the standard.

Sixty-nine percent (n=13) of the remediated students and 28% (n=36) of the non-remedial students returned in the fourth semester, which met the standard. The SSR for remediated students (62%) exceeded that for their non-remedial counterparts (28%) by 34 percentage points; the difference met the standard and was a reversal of the typical pattern.

In summary, the weak retest results on the NJCBSPT-SS detracted from the otherwise favorable student outcomes for remedial writing. However, these data should interpreted with caution on account of the relatively small number of full-time students (n=17) serviced by the program (of which only 10 returned in the fourth semester).

Computation

Placement Criteria. Sussex used an NJCBSPT-MC score of 165 for remedial placement, which met the standard. Of the students tested, 48% of the full- and 38% of the part-time students were identified for computation remediation.

Remedial Program Outcomes. Seventy-one percent of the full-time and 17% of the part-time enrollees completed the remedial program in four semesters. Note that these completion rates were lower than the rates reported for the 1986 (80% and 76% respectively) and 1985 (100% and 82% respectively) cohorts. Of the 1987(-89) students who completed the program, 100% (n=31) attained the institution's minimum retest level or fell within an SEM of it, which met the standard.

Subsequent Academic Performance. Passing rates in the first (subsequent) college-level course could not be reported because the students were required to take elementary algebra in sequence prior to enrolling in the subsequent college-level courses. Eighty-two percent of the remediated and 100% of the non-remedial students attained a cumulative GPA of at least a "C"; the 18 percentage-point difference did not meet the standard.

Sixty-five percent of the remediated students (n=17) and 31% of the non-remedial students (n=26) returned the fourth semester, which met the standard. Similarly, the SSR for remediated students (53%) exceeded that for the non-remedial students (31%) by 22 percentage points; the differential met the standard and was a reversal of the typical pattern.

Thus the Commission's computation program exhibited favorable student outcomes on all available indicators, with exception of the GPA comparison. The results, however, should be interpreted with caution because of the relatively small number of full-time students (n=25) serviced by the program (of which only 12 returned in the fourth semester).

Elementary Algebra

Placement Criteria. Sussex used an NJCBSPT-EA score of 167 as its cut-off score. This resulted in the remedial identification of 67% of the full- and 69% of the part-time test-takers. All students who fell below the cut-score were required to take elementary algebra. The institution stated that it:

> "feels strongly that algebra is a basic skill necessary to all content areas. [However,]...our students contracted to CCM [County College of Morris] are not obligated by CCM to take Developmental Algebra for programs which do not require it, i.e., Nursing, Criminal Justice. Likewise, students needing only one or two developmental courses may be sponsored to CCM for programs not available at SCCCC. Placement and tracking of said students is done by CCM in those instances."

Remedial Program Outcomes. Fifty-seven percent of the full- and 29% of the part-time students enrolled in remediation completed it in four semesters. The reported completion rates were higher for the 1986 (74% and 72% respectively) and 1985 (89% and 90% respectively) cohorts. Of the 1987(-89) students who successfully satisfied all remedial requirements in the skill area (n=32), 100% attained the institution's minimum retest level. This percentage met the standard.

Subsequent Academic Performance. Seventy-one percent of the remediated students and 70% of the non-remedial comparison group passed the first (subsequent) college-level course, which met the standard. Ninety-one percent of the remediated students and 100% of the non-remedial students had cumulative GPA's of at least a "C" in the fourth semester. This nine percentage-point difference met the standard.

Sixty-nine percent of the remediated students (n=16) and 29% of the non-remedial students (n=17) returned for the fourth semester, which met the standard. The SSR of the remediated group (63%) exceeded that of the non-remedial students (29%) by 34 percentage points, which met the standard and was a reversal of the typical pattern.

In summary, the student outcomes for the elementary algebra program were uniformly positive, thus arguing for a successful remedial effort. These results, however, should be viewed with caution because of the relatively small number of full-time students (n=28) serviced by the program (of which only 15 were present in the fourth semester).

Overview

Strengths

Sussex County Community College Commission succeeded in testing 100% of the students requiring testing, a commendable performance comparable to the rates reported for the past several cohorts. In addition, full-time students who were identified for remediation in each of the remedial areas were enrolled in appropriate remedial courses in a timely fashion. The enrollment rates were improved significantly over results reported for the 1985 cohort.

The institution administered retests to 100% of the students requiring retesting in each of the four skill areas.

The first (subsequent) college-level course performance, retention and SSR outcomes were favorable across the four skill areas.

With exception of one indicator each, the available student outcomes for both the writing and computation programs were uniformly positive (albeit based on small sample sizes).

Student outcomes for the elementary algebra program were uniformly positive (albeit based on small sample sizes), thus arguing for a successful remedial effort.

Areas of Concern

The institution's reports were ambiguous on two key points: (1) Specifically where -- at SCCCC or at a contracting institution -- were the subsequent college-level courses taken (and GPA's earned)? (2) Who were the students actually reported on? Where the actual teaching occurred bears on the interpretation of the follow-up data. These critical explanations should be provided in future reports.

The weak retest performance in reading missed the standard by a wide margin and indicated a decline from previous years. Moreover, a decline in relative GPA performance was also noted for that program. These disturbing trends should be examined by the institution.

In the writing area, the roles of the "other records" (unspecified) and the Composition score in placement decisions require clear explanation. In addition, the institution should investigate the conflicting retest results in writing, depending on which NJCBSPT instrument was used (i.e., -SS and -Essay sections).

The institution's 1987(-89) report stated that "the SCCCC Basic Skills department is not computerized. Therefore, all statistics provided in this report have been obtained by hand." Correction of this archaic situation should be given the highest priority as the basic skills programs grow steadily along with the institution.

Suggestions For Further Inquiry

In 1987(-89), completion rates in computation and elementary algebra appeared to drop significantly from the rates reported previously. This is an area that the institution may wish to explore.

UNION COUNTY COLLEGE

Policy Administration

In 1987, Union County College tested 92% of the full-time and 72% of the part-time students requiring testing. The full-time rate met the Board's minimum testing requirement, as has been the case over several cohorts, but the part-time rate did not. In fact, the part-time testing rate fell short of the minimum expectation in 1984, 1985, and 1986, as well as in 1988. According to the institution, "follow-up measures are not employed because of limited resources." This shortcoming was pointed out in the last round of review; however, no response was received.

Of the full-time students identified for remediation, Union succeeded in enrolling within two semesters 91% in reading, 91% in writing, 90% in computation and 95% in elementary algebra. These rates satisfied the Board's minimum enrollment standard. For identified, full-time students who had returned in the fourth semester, the percentages of students who had yet to begin their needed remediation in reading, writing and computation were within the parameters set. On the other hand, 8% of the students who were identified for remedial algebra and were present in the fourth semester had not begun remediation by Spring 1989, which did not meet the standard. The college reported that efforts to improve this performance were under way, including "a quality control review" of registration forms in order to monitor the overriding of computer registration blocks by faculty advisors.

Retests were administered to the students who successfully completed their prescribed remediation by Spring 1989 at the following rates: 91% in reading, 92% in writing, 87% in computation and 84% in elementary algebra. Each of these "capture" rates fell short of the minimum expectation.

Remedial Areas

Reading

Placement Criteria. The college used a score of 161 on the NJCBSPT-RC as its criterion for placement, which met the standard. This resulted in 63% of the full-time and 53% of the part-time students being identified for remediation.

Remedial Program Outcomes. Of those enrolled in remedial reading, 61% of the full-time and 61% of the part-time students successfully satisfied all remedial requirements by the end of Spring 1989. Seventy-five percent of the students who successfully completed remediation attained the college's minimum score on the retest or fell within one SEM of it, which did not meet the standard.

Subsequent Academic Performance. Students who completed reading remediation at Union performed better with respect to passing rates than their non-remedial counterparts in the first (subsequent) college-level course (75% and 68% respectively), which met the standard. On the broader academic indicator, 83% of the remediated students had cumulative GPA's at or above "C," compared to 88% of the non-remedial students; this five percentage-point gap in GPA performance met the standard.

Remediated students returned in the fourth semester at a higher rate (54%) than their non-remedial counterparts (42%), which met the standard. Note, however, that this non-remedial retention rate was quite low. Completers of remediation posted a cumulative SSR of 45%, compared to 37% for the non-remedial students. The difference met the standard and was a reversal of the typical pattern.

In summary, outcomes for the reading area at Union were mixed, with weak retesting results detracting from the otherwise seemingly positive indicators. However, it should also be kept in mind that interpretation of the retention and SSR indicators was clouded by the low retention rate for the non-remedial comparison group.

Writing

Placement Criteria. Placement in remedial writing at Union was accomplished using a cutoff score of 161 on the NJCBSPT-SS. This criterion met the standard. In 1987, 57% of the full-time and 54% of the part-time test-takers were identified for remediation.

Remedial Program Outcomes. Of the students who enrolled in remedial writing, 68% of full-timers and 68% of part-timers had successfully satisfied all the remedial requirements by Spring 1989. Eighty percent of the students who successfully satisfied all the remedial requirements attained the institution's minimum score on the retest or fell within one SEM of it, which missed the standard.

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at the rate of 81%, compared to 73% for the non-remedial students; this difference met the standard. Completers of remediation were only six percentage points behind their non-remedial counterparts in the percent cumulative GPA's at or above "C" (82% and 88% respectively); this difference met the standard.

Remediated students returned in the fourth semester at a higher rate than the non-remedial students (56% vs. 40%), which met the standard. It should be noted that the retention rate for non-remedial students was quite low. The SSR for the remediation-completed students was 46%, compared to 35% for the non-remedial students. The 11 percentage-point difference in SSR's met the standard and was a reversal of the typical pattern.

As in the reading area, outcomes for remedial writing at Union were mixed, with weak retesting results detracting from the otherwise seemingly positive indicators. The low retention rate for the non-remedial comparison group, however, made it especially difficult to interpret the retention and SSR results.

Computation

Placement Criteria. Union placed students into computation using a cut-score of 165 on the NJCBSPT-MC, which met the standard. Seventy-two percent of the full-time and 74% of the part-time test-takers were identified for remediation in computation.

Remedial Program Outcomes. Of the full-time students who enrolled in computation, 59% had successfully satisfied all the requirements by Spring 1989. Ninety-four percent of the students who successfully satisfied all remedial requirements attained the college's minimum score on the retest or scored within one SEM of the minimum score, which met the standard.

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at the rate of 50% as compared to 56% for the non-remedial students. The quality of this performance is difficult to ascertain since the numbers of students were very small in both the remediation-completed group and the non-remedial group (18 and 9 respectively). The completers of remediation as a group fell five percentage points behind the non-remedial students in the percentage of cumulative GPA's at or above "C" (85% and 90% respectively); this difference met the standard.

The retention rate for completers of computation (57%) was higher than that for the non-remedial students (45%), which met the standard. It should be noted, however, that this non-remedial retention rate was quite low. Remediated students collectively had an SSR of 48%, compared to 40% for the non-remedial students. The difference in SSR's met the standard and was a reversal of the typical pattern.

Thus, the pattern of results for Union's computation program was generally positive. However, it should also be acknowledged that the outcomes for at least two of the indicators -- first (subsequent) college-level course and retention -- were difficult to interpret.

Elementary Algebra

Placement Criteria. In 1987, an NJCBSPT-EA score of 166 (and a curriculum requiring mathematics) was used in remedial algebra placement at Union. This cutoff score missed the standard by one scaled-score point. As a result, 37% of the full-time students and 38% of the part-time students were identified for remedial algebra. The college intends to have a mandatory elementary algebra requirement in place as of Fall 1992 "providing adequate resources are available."

Remedial Program Outcomes. Of the students who enrolled in remedial algebra, 44% of the full-time and 53% of the part-time students successfully satisfied all remedial requirements by Spring 1989. Ninety-nine percent of the students who successfully completed remediation attained the college's minimum score (NJCBSPT-EA 166) on the retest. [This outcome would have been the same with an NJCBSPT-EA cutoff score of 167.]

Subsequent Academic Performance. The passing rate in the first (subsequent) college-level math course for remediated students was 61%, one percentage point below the passing rate for non-remedial students in the same courses (62%); the difference met the standard. As to the broader academic indicator, 87% of the remediated students attained a cumulative GPA at or above "C," four points above the performance of the non-remedial comparison group (83%). The difference met the standard and was a reversal of the typical pattern.

Students who completed remedial algebra returned in the fourth semester at a rate of 77%, compared to 44% for the non-remedial students; the difference met the standard by a wide margin and reflected improvement since the last cycle of review. However, it should be noted that the retention rate for non-remedial students was quite low. The SSR for the remediation-completers collectively was 67%, as compared to 37% for the non-remedial students. This difference met the standard and, not surprisingly, was also a reversal of the general pattern.

In conclusion, the 1987-89 student outcomes for the remedial algebra program appeared uniformly positive in relation to the standards. A favorable interpretation of this pattern, however, was partly obscured by the unsatisfactory placement criterion and the low retention rate of the non-remedial comparison group.

Overview

Strengths

For several years, Union has succeeded in testing its full-time students and ensuring their timely enrollment in needed remediation within two semesters.

In reading, writing and computation areas, relatively few identified, full-time students remained in the fourth semester without having begun their required remediation.

In all four remedial areas, retention and SSR of remediated students exceeded the rates for the non-remedial students. Similar patterns, for the most part, have held over at least three successive cohorts of data.

In all skill areas, the percentages of remediated students with GPA's at or above "C" compared favorably to those for the respective non-remedial comparison groups. In algebra, the percentage for remediated students even exceeded that for the non-remedial students.

Student outcomes for the remedial algebra program appeared uniformly positive for the students placed into elementary algebra. A similar pattern of success was also noted for the computation area, excepting the above-mentioned difficulty in interpreting the first (subsequent) college-level course performance for completers of remedial computation. The college's report outlines proposed changes to the remedial mathematics program in 1989-90, such as "the offering of a new course...for students with severe math problems and the implementation of [Dr. Charles] Pine's algebra project"; these changes undoubtedly will improve Union's developmental math program even further.

In reading and writing areas, all student outcomes appeared favorable with exception of the retest results. In these areas, passing rates in first (subsequent) college-level courses for completers of remediation exceeded those of the non-remedial students.

Areas of Concern

The placement testing rate for part-time students has repeatedly fallen short of the Board's minimum testing requirement. Furthermore, no response to this criticism was received in the previous round of review. The college must raise its part-time testing rate in accordance with Board requirements.

Insufficient percentages of students who completed remediation were retested in each of the four skill areas. This added to the difficulty of assessing each of the remedial programs.

Retest results in the areas of reading and writing lagged behind the standard. This is an area which merits examination by the institution.

In 1986 and 1987 (as well as in 1988), the cutoff score used for placement and retesting in elementary algebra (NJCBSPT-EA 166) fell short of the minimum standard by one scaled-score point. Curiously, a score of 167 had been used in previous years. Moreover, in the algebra area the percentage of identified, full-time students present in the fourth semester who had not yet begun their required remediation missed the enrollment standard in 1987(-89). The college should tighten its remedial placement and enrollment policies in mathematics.

It would be advisable, if at all possible, for the college to track larger numbers of students in their first college-level course taken subsequent to computation, so that the quality of student performance in the computation area can be better ascertained.

Suggestions For Further Inquiry

In the course of the review, many questions surfaced about the low retention of non-remedial students at the institution and about the corresponding SSR pattern "reversals" (i.e., remediated students outperforming their non-remedial counterparts) across the four skill areas. Surprisingly, the retention rate for the non-remedial comparison group in each of the four areas has been declining since 1984(-86), with little exception. The low retention rate for the non-remedial comparison groups clouded interpretation of retention and SSR indicators, and raised the possibility of "false-positive" results. It would be helpful for the institution to examine these trends and provide the committee with information that might help to interpret these outcomes in the future.

Might one or more campuses be contributing disproportionately to the results? Perhaps it would be instructive to disentangle the outcomes by campus and related factors.

WARREN COUNTY COMMUNITY COLLEGE COMMISSION*

Policy Administration

Six full-time and 55 part-time students in the 1987 entering cohort were tested by Warren County Community College Commission. Students tested included in-county and out-of-state attendees only (i.e., the in-state but out-of-county attendees were tracked by the respective institutions in which the students enrolled). Unfortunately, no data were reported on the numbers of students required to be tested; thus, the institution did not fulfill the guidelines of the Basic Skills Council. This serious omission made it impossible to monitor the Commission's 1987-89 placement testing effort. The omission has been corrected in a more recent report (on the Fall 1988 cohort); nevertheless, the 1988-89 placement testing rates (87% for full-time students and 54% for part-time students) indicate that the Commission is falling short of the Board's minimum testing requirement.

To further complicate the assessment of Warren's programs, enrollment data provided in response to the Annual Basic Skills Questionnaire were highly inconsistent with results furnished as part of the institution's "effectiveness" report, a shortcoming that was also pointed out in the previous cycle of review. This raised questions about the accuracy of the data. These and other reporting discrepancies were acknowledged in the institution's report, which states that the problems have been addressed for the 1988 cohort.

In 1987-89, the institution administered retests to 100% of the students who satisfied remedial requirements in each of the four skill areas, which met the standard.

Remedial Areas

Reading

Placement Criteria. The Commission reportedly used an NJCBSPT-RC score of 165 (cf. 166 given on the annual questionnaire), which met the standard and exceeded it by four scaled-score points. Note, however, that this is another example of a reporting discrepancy. Of the six full-time and 55 part-time students tested, two (33%) and 29 (53%) respectively were identified for remedial reading.

Writing

Placement Criteria. Warren used a cut score of 165 on the NJCBSPT-SS, which met the standard and exceeded it by four scaled-score points. This resulted in one full-time student (17%) and 20 part-time

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**Warren County Community College Commission (WCCCC), chartered in 1981 to provide higher education to the citizens of Warren County, offers remedial, non-credit and college credit instruction but contracts for the delivery of certain credit-bearing courses with neighboring colleges (i.e., County College of Morris; Northampton County Area Community College, Bethlehem, PA; Raritan Valley Community College; and Union County College). In 1987 WCCCC secured its own facility and its first body of full-time students (previously full-time students were enrolled primarily at out-of-county institutions). While partial outcome data on Warren's remedial students were provided for this report, the parallel (comparison) outcomes for many of the non-remedial students, who were by definition at other colleges, were not available. In addition, the sizes of the various basic skills groups frequently were so small as to make any interpretation of the results unreliable. Therefore, the overall effectiveness of the remedial programs could not be ascertained. Given the paucity of meaningful student outcomes for this particular review cycle, the review instead concentrates on the Commission's testing, placement and remedial course enrollment for 1987-89.*

students (36%) being identified for remediation. Apparently the NJCBSPT-Essay was not used in the placement process.

Computation

Placement Criteria. Students with an NJCBSPT-MC score below 168 were identified for remedial computation, which met the standard and exceeded it by three scaled-score points. Four full-time (67%) and 35 part-time (64%) students were identified for the remediation.

Elementary Algebra

Placement Criteria. Warren used a score of 168 on the NJCBSPT-EA (cf. 169 on the annual questionnaire), which met the standard. Note that this was yet another example of a reporting discrepancy. Of the students tested, four full-time (67%) and 52 part-time (95%) students were identified for remedial algebra.

Overview

Strengths

Warren County Community College Commission has improved in its reporting efforts since the last cycle of review. For example, the descriptive narrative and retest results, missing in the last round, provided much helpful information.

The basic skills programs have been growing steadily along with the institution. Each year there have been positive developments with regard to placement policies, staffing, remedial instruction and program monitoring. The writers of the report recognize many of the shortcomings and point to corrective measures that are nearly in place. The institution anticipates "that it will be testing and tracking larger numbers of both full- and part-time students in the future and thus will be better able to measure the effectiveness of its basic skills programs."

Areas of Concern

Warren has had repeated difficulty in adequately reporting its testing and enrollment data. For example, no data were provided on the numbers of students required to be tested. Moreover, there was no correspondence between the 1987 Annual Basic Skills Questionnaire and "effectiveness" report submissions. These serious deficiencies made it impossible to review the administrative aspects of the programs.

The institution falls short of the Board's testing and enrollment requirements, based on a preliminary look at 1988-89 data.

GLASSBORO STATE COLLEGE

Policy Administration

Glassboro State College has a commendable record of testing nearly 100% of its entering students over the past five years. In 1987 the college tested 100% of its full-time students but only 80% of its part-time students. The former percentage met the Board's minimum standard but the latter did not. The part-time placement testing standard was also missed in 1985 (73%) [as well as in 1988 (80%)]. The college noted that the part-time students who were not tested were all non-degree seeking students who were registering for their 12th credit of college work.

Glassboro enrolled 93-95% of its identified, full-time students in reading, writing and computation courses within two semesters, as has been the pattern over several consecutive cohorts; these enrollment rates met the Board's minimum enrollment standard. Of the full-time students identified for elementary algebra (but not computation), 89% had enrolled in the necessary remedial courses within two semesters, which missed the standard by one percentage point.

In reading and computation, no full-time students were present in the fourth semester who had not yet begun needed remedial courses. Only one full-time student in need of writing (0.3%) and 12 students identified for algebra (2%) were present in the fourth semester without having begun the necessary remediation. Therefore, the four-semester enrollment standard was met in each of the skill areas.

Students who satisfied their remedial requirements through course work were retested at the following rates: 98% in reading, 89% in writing, 96% in computation and 99% in elementary algebra. Each of the above rates met the standard with exception of the rate of retesting in writing.

Remedial Areas

Reading

Placement Criteria. Glassboro used 165 as its NJCBSPT-RC placement score; this met the standard and was four points above it. As a result, 36% of the full-time students and 44% of the part-time students were identified for reading. Previously the college had been using a cutoff as high as 168 on the NJCBSPT-RC, which resulted in identification rates of 46% and 33% respectively (in 1984).

Remedial Program Outcomes. Ninety percent of the full-time and 88% of the part-time students enrolled in reading remediation completed the program by the fourth semester. Over 99% of the students who satisfied their remedial requirements through course work attained the college's minimum score on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. For the 1987 cohort, 97% of the students completing remediation passed their first (subsequent) college-level course, compared to 95% of the non-remedial students. The difference met the standard and reflected improvement over 1985 and 1986. Not only were these passing rates high, but the fact that the passing rate for remediation-completed students exceeded that for the non-remedial comparison group speaks well for the program's effectiveness. In addition, 84% of the remediated students had cumulative GPA's at or above a "C," compared with 88% for the non-remedial students; the four percentage-point difference met the standard.

In the fourth semester 77% of the remediated students returned to campus compared with 75% of the non-remedial students, which met the standard. On SSR, the two groups differed by only one percentage point

(65% vs 66% respectively), which met the standard. Furthermore, the SSR for completers of remediation had improved by eight percentage points over the past three cohorts.

In summary, the 1987-89 student outcomes for the remedial reading program were uniformly positive, thus indicative of a successful remedial effort. On several indicators there was evidence of improvement over the past three years.

Writing

Placement Criteria. Glassboro used a two-score placement paradigm based on the NJCBSPT-Essay and -Composition scores. With an Essay score of six the Composition cutoff used was 169, below which students were placed into remediation. If the Essay score was seven or above, then the corresponding Composition cut-score employed was 167. Students scoring five or less on the Essay were automatically placed in remediation regardless of Composition score. This paradigm met the standard and resulted in 29% of full-time and 30% of part-time students being identified for writing remediation.

Remedial Program Outcomes. By the end of the fourth semester, 82% of full-time enrollees and 25% (or 3) part-time enrollees had completed the program. Of the students who satisfied their remedial requirements through course work, 97% attained the college's retest minimum (Essay 7, locally scored) or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. Eighty-one percent of the remediated students passed the first (subsequent) college-level course in writing, compared to 92% of the non-remedial comparison group; the 11 percentage-point differential between the two groups did not meet the standard. Unfortunately, to generate this comparison the college tracked only about 65% (129 of 198) of its returning, remediation-completed students and 80% (494 of 615) of its non-remedial students, which raised questions about the adequacy of the comparison. In addition, it should be stressed that the non-remedial students performed so well in this course that the comparison with remediation-completed students may not have yielded a fruitful criticism. This gap has been as large as 16 points previously (1984 & 1985 cohorts) and appeared to be closing.

On the GPA indicator, 86% of remediated students had a cumulative GPA of "C" or greater, compared to 90% for non-remedial students; the difference of four percentage points met the standard. The four-semester retention rates for remediated and non-remedial students were virtually identical at 76%, thus meeting the standard. The SSR for the remediated students was 66% and for the non-remedial students, 69%; the three percentage-point difference met the standard.

Overall, results on the first (subsequent) college-level course comparison detracted from the otherwise uniformly positive outcomes for the remedial writing program.

Computation

Placement Criteria. Glassboro used a score of 171 on the NJCBSPT-MC (which met the standard and was six points above it) along with an in-house diagnostic test to place students. In 1987 the college identified for remediation 27% of its full-time and 52% of its part-time students. Over the past three cohorts, the identification rate for full timers has been as high as 39% (1986).

Remedial Program Outcomes. Eighty-six percent of the full-time enrollees and 100% of the part-time enrollees satisfied all computation requirements within four semesters (14% of the former through means other than course work). Nearly 100% (i.e., all but 1 out of 227) of the students who satisfied their remedial requirements through course work attained the college's minimum score on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. In the first (subsequent) math-related college-level courses, 79% of the remediated students passed their course compared to 85% of non-remedial students; the six percentage-point difference missed the standard by one percentage point. In past cohorts (1984 & 1985) this gap has been as large as 15 percentage points, and thus the apparent narrowing of the difference was viewed as a sign of improvement. In addition, it should be kept in mind that all students who completed computation were also required to enroll in elementary algebra.

In terms of cumulative GPA percentages at or above "C," the remediated students' performance exceeded that for the non-remedial students by one percentage point (88% and 87% respectively), which met the standard. The fourth-semester retention rates of the two groups were essentially identical (76%), which met the standard. In terms of SSR the performances of the two groups were comparable, with the remediated students (67%) exceeding the non-remedial students (66%) by one percentage point (which met the standard).

In summary, Glassboro's computation program met all outcomes standards but one (subsequent college-level course passing rate) and here the relative performance fell short by a mere percentage point. The shortfall is of little concern in light of the fact that all students who completed computation were required to take remedial algebra.

Elementary Algebra

Placement Criteria. Glassboro used an NJCBSPT-EA cut-score of 176 (which met the standard and was above it by nine scaled-score points) plus an in-house diagnostic test to place students in elementary algebra. As a result, the college identified for remediation 57% of its full-time and 80% of its part-time test-takers. All students were required to satisfy the algebra requirement, irrespective of curriculum.

Remedial Program Outcomes. After four semesters, 89% of full-time students enrolled in remediation had successfully satisfied all remedial algebra requirements (10% through means other than course work). Similarly, 77% of the part-time enrollees had completed the program within four semesters (24% through means other than course work). Nearly 100% of the remediated students (i.e., all but 1 of 444 students) reached the college's minimum score on the retest (NJCBSPT-EA 175) or fell within one SEM of it, which met the standard. [This outcome would have been the same using a cut-score of 176.]

Subsequent Academic Performance. Seventy-nine percent of remediated students passed their first (subsequent) college-level math course, compared to 93% of the non-remedial comparison group; the 14 percentage-point difference did not meet the standard. However, since such a low percentage of the algebra completers either took or were tracked into subsequent math courses (i.e., only 20% of Glassboro's retained algebra completers were followed for this purpose), and since the non-remedial students performed so well in these courses, it was difficult to interpret the significance of the wide performance differential. For previous cohorts, the between-group differences in subsequent college-level course performance have ranged from as little as 2% (1986) to as much as 10% (1984).

In 1987(-89) both student groups had similar proportions of students with GPA's at or above a "C" (89%), which met the standard. In four-semester retention, the remediated students (82%) outperformed their non-remedial peers (75%) by seven percentage points, which met the standard. Finally, the elementary algebra completers also outperformed the non-remedial students in SSR (73% vs. 67%), which met the standard and was a reversal of the typical pattern.

Thus, with exception of the one indicator (subsequent college-level course passing rates), outcomes for Glassboro's remedial algebra program were indicative of a successful program. For example, remediated students were being retained and were posting GPA's of at least a "C" at rates comparable to or higher than the non-remedial students. In addition, students who completed the remedial program performed exceptionally well on the retest. The college should examine the possibility of tracking a greater percentage of elementary algebra completers into subsequent college-level courses in mathematics.

Overview

Strengths

The college is to be commended for its consistently high rates of placement testing for full-time students and for its timely enrollment of identified students in the necessary remedial courses, a pattern which has held over at least five consecutive years.

The college administered retests to virtually all students who completed its reading, computation and elementary algebra programs.

Outcomes for the reading area were uniformly positive, and therefore strongly indicative of a successful remedial effort for the students placed into the program. A nearly identical pattern of success was also noted in the previous review cycle.

The consistency of strong student outcomes across all four skill areas is commendable. For example, retest results were highly favorable in each of the areas, as were GPA, retention and SSR comparisons.

Retention rates for both study groups in all four skill areas reflected improvement over comparable data from the 1986 cohort. Ample additional evidence of improvements among the skill areas also surfaced in the course of the review.

Areas of Concern

The placement testing rate for part-time students at Glassboro slipped below the Board's minimum requirement in 1985 and 1987 [as well as in 1988]. The college needs to tighten its placement testing policies and procedures for part-time, non-degree seeking students.

In the writing, computation and algebra areas, the performance differentials between remediated and non-remedial students in the first college-level courses taken subsequent to remediation should be examined by the college. Despite obviating factors and compelling evidence to the contrary, these differentials would imply that a proportion of students who completed the various remedial programs did not have the skills necessary to succeed in the respective college-level courses. Moreover, similar patterns were evident in data furnished for previous cohorts. The college did not respond to this point in the last round of review.

In the writing area, the rate of retesting students upon completion of remediation should be raised in keeping with the minimum standard.

Suggestions For Further Inquiry

The paradox of demonstrating exceptionally strong student outcomes generally (in writing and remedial mathematics areas) on the one hand and an apparent lack of sufficient carry-over to the first (subsequent) college-level courses on the other is an area that the college ought to explore.

In order to better understand the significance of these outcomes, it would be wise for the college to attempt to track a greater percentage of remedial completers into the first (subsequent) college-level courses in writing and mathematics.

JERSEY CITY STATE COLLEGE

Policy Administration

Jersey City State College has consistently met and exceeded the Board's minimum placement testing requirement for its full- and part-time students, a commendable achievement. For the Fall 1987 cohort the institution tested 98% of its full-time and 94% of its part-time students requiring placement testing, which met the Board's minimum testing expectation. The institution's testing rates were even higher for the prior four cohorts.

Full-time students identified for remediation had enrolled in an appropriate remedial course within two semesters at the following rates: 96% in reading, 98% in writing, 91% in math computation, and 95% in algebra. Each of these two-semester enrollment percentages met the standard, and similar results were reported for the 1985 and 1986 cohorts. In addition, the enrollment rates for reading and computation reflected improvement since the previous round of review. Further, of the full-time students identified for remediation and present in the fourth semester, none of these students (in writing and computation) or only one of these students (in reading and elementary algebra) had yet to begin their prescribed remedial program (i.e., 0-1% across the skill areas), which met the standard.

To the students who completed remediation in each of the skill areas, the institution administered locally developed post-tests but not the standardized retests mandated by the Board of Higher Education (i.e., appropriate sections of the NJCBSPT). The college stated that the NJCBSPT retests were "administered to a sample Fall 1987 cohort." Nevertheless, no data on the NJCBSPT retesting were furnished for review, contrary to the reporting requirements of the Board and Basic Skills Council. Hence the results of this testing effort could not be evaluated by the committee.

The college has indicated that the appropriate NJCBSPT retests are now being administered. However, despite assurances in the 1987(-89) report "that complete New Jersey retest data will be provided for future basic skills cohorts," the following unsatisfactory "capture" rates were given in the institution's more recent 1988(-90) report: 74% in reading, 30% in remedial writing, 66% in computation and 87% in elementary algebra. Each of the 1988(-90) retest rates missed the standard by a wide margin. The college should bring its retesting and reporting practices in line with Board requirements.

In the previous round of review the committee noted that students were receiving two degree credits for the upper-level remedial writing course ("College Writing 105"), in opposition to Board policy which does not allow the awarding of graduation credits for remedial courses. However, the college did not reply to this particular criticism. Of even greater concern, the institution's response of "no" to the question "Are graduation credits awarded for remedial or developmental courses?" on three sets of annual questionnaires (1987, 1988 and 1989) is seemingly discrepant with information about the remedial writing courses printed in Jersey City State College's *General Bulletin*. A full disclosure of policies and procedures surrounding the issue of credits awarded for remediation should be required of the institution.

Remedial Areas

Reading

Placement Criteria. In 1987, a score of 162 on the NJCBSPT-RC (which met the standard) and an in-house diagnostic/verifying test were used for placement in remedial reading. These criteria resulted in the identification of 54% of the full-time students and 59% of the part-time students.

Remedial Program Outcomes. Of the students who began remedial reading, 81% of the full-time and 68% of the part-time students successfully satisfied their remedial requirements within four semesters. The college reported post-test results based on a departmental reading comprehension assessment (which could not be evaluated using the standardized frame of reference); thus, the institution did not fulfill the reporting requirements of the Basic Skills Council. [Note that a preliminary look at available NJCBSPT retest results for the 1988(-90) cohort revealed that only 43% of the students who completed remedial reading and were retested attained the college's minimum retest level or scored within an SEM of it, which would miss the standard by a wide margin.]

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at a rate of 91%, compared to 93% for the non-remedial students; the difference met the standard and indicated improvement from the previous round of review. The passing rates for both groups were high. Seventy-two percent of the remediated students had cumulative GPA's of "C" or better, compared to 89% of the non-remedial comparison group; the 17 percentage-point difference did not meet the standard.

The percentage of remediated students who returned in the fourth semester (69%) exceeded that for the non-remedial group (66%), which met the standard. The SSR for the remediated group was 50%, and for the non-remedial group 58%; the difference missed the standard by one percentage point.

In summary, outcomes on the first (subsequent) college-level course and retention indicators were positive. In contrast, results on GPA and SSR did not meet the respective standards. The absence of interpretable retest data added to the difficulty of assessing the program. [However, the preliminary determination of especially weak retest results for 1988(90) would suggest the need for the institution to examine its remedial reading program.]

Writing

Placement Criteria. Jersey City State College used the NJCBSPT-Essay (locally scored by faculty) with a confirming one-hour, in-class writing sample to place students in the two-semester remedial writing sequence ("College Writing 090/105"). Students with an Essay score below 8 (on a range from 2 to 10) were identified for remediation, subject to verification using the in-class writing sample. In 1987, 38% of the full-time students and 51% of the part-time students were identified for remedial writing instruction. The respective identification rates for prior years (based on the same placement criteria) were as follows: 31% and 41% in 1984, 26% and 37% in 1985, 33% and 50% in 1986.

Questions were raised about the institution's local scoring of the NJCBSPT-Essay -- in particular, the use of a non-standardized scoring scale (2-10, not 12) -- that made it impossible to interpret the NJCBSPT-based criterion. Further, in 1988(-90) the same criteria resulted in the identification of only 17% of the full-time and 25% of the part-time test-takers. The volatility in rates of remedial identification would suggest the need for the college to anchor local scoring standards to those of the ETS-centralized readings and (or) adopt additional criteria for placement in remedial writing.[1]

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[1] *The Chairman of the Basic Skills Council wrote to the college in January 1990 to inquire about the identification rates for remedial writing. The college identified 17% of the full-time test-takers for remedial writing in 1988, a rate which was characterized by the letter's author as "one of the lowest in the state and...about half the rate JCSC reported for the previous two years." The letter also indicated that "the centrally-scored NJCBSPT essay results (Cycle 6) for...JCSC Fall, 1988 freshmen...reveal that 40% scored at or below 6, suggesting a far greater level of remedial need than the 17%...." The college responded that it "finds no evidence to support [the] hypothesis of locally lax scoring standards." The institution argued that "for whatever reason, this particular cohort...was able to demonstrate writing skills that were barely, but perceptibly, better than those who were admitted before...Since that entering class, the proportion of students needing...remediation in writing generally has returned to the parameters that*

Remedial Program Outcomes. Sixty-four percent of the full-time and 79% of the part-time students who began the program successfully satisfied all remedial requirements within a four-semester period. The post-test results reported by the college were based on a departmental essay (which could not be evaluated using the standardized frame of reference); thus, the institution did not fulfill the reporting requirements of the Basic Skills Council. [A preliminary look at available NJCBSPT retest results for the 1988(-90) cohort indicated that only 33% of the students who completed remedial writing and were retested attained the college's minimum retest level or scored within an SEM of it, which would miss the standard by a wide margin.]

Subsequent Academic Performance. Remediated students passed their subsequent English composition course at a rate that exceeded that of non-remedial students in the same course (82 vs. 80), which met the standard. The four percentage-point differential between the two student groups on GPA performance (i.e., percentages with cumulative GPA's at or above a "C," 83% vs. 87%) met the standard.

The retention rate for the remediated student group (83%) exceeded that for the non-remedial comparison group (65%) by a wide margin, which met the standard. A similar SSR pattern was noted (69% vs. 56%), which met the standard and was a reversal of the typical pattern.

In summary, the available student outcomes for 1987(-89) appeared favorable. However, the missing retest data and unresolved questions surrounding the placement criteria made it difficult to confirm these positive signs. [Moreover, the preliminary determination of especially weak retest results for 1988(90) cast doubt on the favorable interpretation.]

Computation

Placement Criteria. The institution used an NJCBSPT-MC cut-score of 168 (which met the standard and was above it by 3 scaled-score points) along with a departmental mathematics test for placement. In 1987, 43% of the full-time students and 77% of the part-time students were identified for computation.

Remedial Program Outcomes. Of the students who began the program, 89% of the full-time and 81% of the part-time students satisfied all remedial requirements within four semesters. The college reported non-standardized post-test results which could not be evaluated by the committee; thus, the institution did not fulfill the reporting requirements of the Basic Skills Council. [Note that a preliminary analysis of NJCBSPT retest results for the 1988(-90) cohort revealed that only 66% of the students who completed computation and were retested attained the college's minimum retest level or scored within an SEM of it, which would miss the standard by a wide margin.]

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at the rate of 90%, compared to 93% for the non-remedial comparison group; the difference met the standard. Eighty percent of the remediated students had cumulative GPA's of "C" or better, compared to 87% for the non-remedial students; the seven percentage-point differential met the standard.

The fourth-semester retention rates were 68% for the remediated group and 61% for the non-remedial students, which met the standard and reflected improvement from the previous round. Similarly, the SSR's were 54% for the completers of remediation and 53% for the non-remedial group, which met the standard and was a reversal of the typical pattern.

Overall, available student outcomes for computation gave indications of success. However, the absence of interpretable retest data (and the weak preliminary retest results for the 1988-90 cohort) clouded interpretation of the positive signs.

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prevailed prior to 1988." Of note, Jersey City State College has since submitted data for the Fall 1987 cohort; these data show, once again, that only 17% of the full-time, tested students were identified by the college for remedial writing, using the same locally derived standards.

Elementary Algebra

Placement Criteria. For students whose NJCBSPT-MC scores were at or above 168, Jersey City State College used an NJCBSPT-EA cut-score of 177 (which met the standard and was 10 scaled-score points above it) for remedial algebra placement. This resulted in 85% of the full-time students and 97% of the part-time students being identified for remedial algebra. All students were required to satisfy the algebra requirement, irrespective of curriculum.

Remedial Program Outcomes. After four semesters, 74% of full-time students enrolled in remediation had successfully satisfied all remedial algebra requirements. Similarly, 66% of the part-time enrollees completed the course in four semesters. Post-testing was conducted using a local "final exam," and therefore the institution did not fulfill the reporting requirements of the Basic Skills Council. These results could not be evaluated by the committee. [A preliminary look at available NJCBSPT retest results for the 1988(-90) cohort indicated that only 48% of the students who completed the remedial algebra course and were retested attained the college's minimum retest level or scored within an SEM of it, which would miss the standard by a wide margin.]

Subsequent Academic Performance. Eighty percent of remediated students passed their first (subsequent) college-level course, compared to 83% of the non-remedial comparison group; the three percentage-point difference appeared to meet the standard. However, this result should be viewed with caution for the following two reasons: (a) only five remediated and 12 non-remedial students were followed into college-level courses, and (b) among the courses selected for follow up was "Principles of Biology," a course in which students likely used very little algebra. The poor "capture" rate for subsequent course performance was especially surprising, in light of the institution's algebra requirement for all students. In the future, the institution should adhere to the Council's reporting guidelines both for selecting up to three applicable follow-up courses and for ensuring the tracking of adequate numbers of students.

Eighty-two percent of the remediated students and 87% of the non-remedial students attained cumulative GPA's at or above a "C," which met the standard. The retention and SSR results also met the standards, with the remediated group outperforming the non-remedial group by a wide margin (94% vs. 68% on retention, an improvement from the previous round of review; 77% vs. 59% on SSR, which was a reversal of the typical pattern).

In summary, the available outcomes appeared favorable for completers of remedial algebra. However, the absence of interpretable retest data (and weak preliminary retest results for the 1988-90 cohort), plus the problematical first (subsequent) college-level course follow-up comparison made it difficult to interpret the results.

Overview

Strengths

Jersey City State College is to be commended for its consistently high placement testing rate for both full- and part-time students. In addition, nearly all full-time students who were identified for remediation received timely remedial instruction in each of the skill areas. Enrollment rates in reading and computation were improved over rates highlighted in the previous round of review.

In all four skill areas, students who needed and completed remediation returned in the fourth semester at rates which exceeded those for their non-remedial counterparts. In addition, the retention results for the computation and elementary algebra areas had improved since the previous round of review.

In reading, the first (subsequent) college-level course passing rates were high and were much improved over results in the previous round of review.

The available 1987(-89) student outcomes for the remedial writing program appeared favorable. However, these positive signs were obscured by the missing retest data and unresolved questions surrounding the placement criteria.

All available student outcomes appeared positive in the two remedial mathematics areas. The absence of interpretable retest data and other factors (see below), however, clouded interpretation of these positive signs.

Areas of Concern

Students apparently were receiving two degree credits for the upper-level remedial writing course ("College Writing 105"), in opposition to Board policy which does not allow the awarding of graduation credits for remedial courses. The college did not reply to this particular criticism in the previous round of review. Of even greater concern, the institution's response of "no" to the question "Are graduation credits awarded for remedial or developmental courses?" on three sets of annual questionnaires (1987, 1988 and 1989) is seemingly discrepant with information printed in Jersey City State College's *General Bulletin*. A full disclosure of policies and procedures surrounding the issue of credits awarded for remediation should be required of the institution.

The institution did not use appropriate sections of the NJCBSPT for retesting, contrary to reporting requirements. Thus the committee could not evaluate the reported data, which made interpretation of the other indicators difficult. Despite assurances in the 1987 (-89) report "that complete New Jersey retest data will be provided for future basic skills cohorts," retest "capture" rates in the institution's more recent 1988(-90) report ranged from 30% in remedial writing to 87% in elementary algebra, all of which missed the standard by a wide margin. The college should bring its retesting and reporting practices in line with Board requirements.

Preliminary analysis of NJCBSPT retest data for the 1988(-90) cohort revealed exceptionally weak results ranging from 33% to 66% across the four skill areas (i.e., percentages of remediated students who attained the college's minimum retest level or scored within an SEM of it).

In the writing area, the institution's local scoring of the NJCBSPT-Essay, and in particular its use of a non-standardized scoring scale (2-10, not 12), requires rethinking. The volatility in rates of remedial identification would suggest the need for the college to anchor local scoring standards to those of the ETS-centralized readings and (or) adopt additional criteria for placement in remedial writing. [The locally defined placement criteria may have resulted in the under-identification of students for remedial writing in 1988 and 1989 -- see footnote under Writing.]

In algebra, the poor "capture" rate for subsequent course performance and questionable course selection for the follow up made the outcomes on this indicator difficult to interpret. The inadequate sample sizes were especially surprising, in light of the institution's algebra requirement for all students. In the future, the institution should adhere to the Council's reporting guidelines both for selecting up to three applicable follow-up courses and for ensuring the tracking of adequate numbers of students.

KEAN COLLEGE OF NEW JERSEY

Policy Administration

In 1987, Kean College tested 96% of the full-time and about 76% of the part-time students requiring testing. The full-time rate met the Board's minimum testing requirement but the part-time rate did not. In 1984, 1985 and 1986, the part-time testing rate also fell short of the Board's minimum expectation. Moreover, the part-time testing rate reported on the 1988 Annual Basic Skills Questionnaire, 59%, represents the institution's poorest performance on the indicator in over five years.

Of even greater concern, Kean "does not systematically identify its non-matriculated candidates for testing," contrary to the guidelines of the Basic Skills Council; this would suggest that the actual testing rates for *all* part-time students on campus were even lower than the percentages reported. This shortcoming requires immediate attention.

Of the full-time students identified for remediation, Kean succeeded in enrolling within two semesters 96% in reading, 95% in writing, and 95% in elementary algebra (the college did not offer separate courses in computation); each of these rates satisfied the Board's minimum enrollment standard. Similarly, by the fourth semester the percentages of full-time students who had not yet enrolled in the prescribed remedial courses in each skill area were within the parameters set (i.e., 1.1%, 0.3% & 2.1% respectively, all less than 5%).

Ninety-seven percent in reading, 98% in writing, and 93% in algebra, of the students who satisfied all remedial requirements through course work were retested; the first two values met the standard but the latter missed it by two percentage points.

Remedial Areas

Reading

Placement Criteria. For placement in reading the college used an NJCBSPT-RC score of 166, which met the standard. This resulted in 53% of the full-time and 59% of the part-time students being identified for remediation.

Remedial Program Outcomes. Of the students enrolled in remedial reading, 89% of the full-timers and 82% of the part-timers successfully satisfied all remedial requirements by the end of Spring 1989. Ninety-seven percent of the students who satisfied their remedial requirements attained the college's minimum score on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. Students who completed reading remediation at Kean performed almost as well as their non-remedial counterparts in the first (subsequent) college-level course (passing rates of 92% and 94%, respectively), which met the standard. On the broader academic indicator, 75% of the remedial completers had cumulative GPA's at or above "C," compared to 90% of the non-remedial students; this fifteen percentage-point gap in GPA performance met the standard.

Remediated students returned in the fourth semester at a higher rate (80%) than their non-remedial counterparts (73%), which met the standard. The remedial completers posted a cumulative SSR of 60%, compared to the 65% for the non-remedial students; this five-point difference met the standard.

On the basis of all student outcome indicators, the reading program at Kean College appeared to be meeting the needs of its identified and enrolled students.

Writing

Placement Criteria. Placement in remedial writing at Kean was accomplished using either a cut-off score of 8 on the NJCBSPT Essay with a Sentence Sense score of <166, or an Essay score of 7. These criteria met the standard. In 1987, 40% of the full-time and 43% of the part-time test-takers were identified for remediation.

Remedial Program Outcomes. Of the students who enrolled in remedial writing, 83% of the full-time and 74% of the part-time students successfully satisfied all remedial writing requirements by the end of Spring 1989. Eighty-two percent of the students who satisfied all remedial requirements attained the college's minimum cutoff on the retest or scored within one SEM of that cut-score, which did not meet the standard.

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at the rate of 83%, compared to 91% for the non-remedial students; this eight-point difference did not meet the standard. Completers of remediation fell 12 percentage points behind their non-remedial counterparts in the percent GPA's at or above "C" (74% and 86% respectively); the difference in performance met the standard.

Remediated students returned in the fourth semester at a higher rate than the non-remedial comparison group (80% vs. 75%), which met the standard. The SSR for remediated students was five percentage points below that for the non-remedial students (59% and 64% respectively), which met the standard.

The remedial writing program exhibited mixed signs of effectiveness. GPA, SSR and retention rate comparisons were positive; however, retest and first (subsequent) college-level course performance results suggested that remediated students were not adequately prepared for college-level English.

Computation

Kean College did not offer separate remedial courses in computation. The lowest level course in the remedial algebra sequence included some computation.

Elementary Algebra

Placement Criteria. In 1987, an NJCBSPT-EA score of 170 (180 for math-related majors) was used for remedial algebra placement at Kean, which met the standard. Fifty-four percent of the full-time students and 69% of the part-time students were identified for remedial algebra. All students were required to satisfy the institution's algebra requirement, irrespective of major.

Remedial Program Outcomes. Of the full-time students enrolled in remedial algebra, 77% successfully satisfied all remedial requirements by Spring 1989 (51% through course work and 26% by means other than course work). Similarly, the completion rate for part-time students was 68% (47% through course work and 21% by other means). ("Other means" in this instance includes those students who tested out of their prescribed remedial course(s) without having earned a passing grade.) Ninety-eight percent of the students who successfully satisfied all remedial requirements attained the minimum score on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. The passing rate in the first (subsequent) college-level math course for remediated students was 81%, eight percentage points below the passing rate for non-remedial students in the same course (89%); the difference did not meet the standard. As to the broader academic indicator, 78% of the remediated students attained a cumulative GPA at or above "C," ten points below the performance of the non-remedial comparison group (88%). The difference met the standard.

Students who completed remedial algebra returned in the fourth semester at a rate of 80%, compared to 75% for the non-remedial students; the difference met the standard. Similarly, the SSR for remediated students was 62%, compared to 67% for the non-remedial students. This difference also met the standard.

With exception of the difference in passing rates between remediation-completed students and non-remedial students in the first college-level course, the algebra program at Kean College did not appear to have any serious areas of concern.

Overview

Strengths

Kean College met the minimum placement testing and enrollment requirements for full-time students (in all skill areas).

The college administered retests to virtually all students who completed its reading and writing programs.

In reading and algebra areas, nearly all students who completed their respective program attained the college's minimum score on the retest.

In all remedial areas, retention rates for remediated students exceeded the rates for the non-remedial students. Similarly, GPA and SSR comparisons were favorable across the three skill areas.

Outcomes in the reading area were uniformly positive, and therefore strongly indicative of a successful remedial effort for the students placed into the program.

Areas of Concern

The college repeatedly has fallen short of the Board's minimum testing expectation for part-time students. The omission of non-matriculated students from the "required to be tested" base at this institution, contrary to the guidelines of the Basic Skills Council, would also suggest that the actual testing rates for the part-time population are even lower than the various percentages reported. Furthermore, no response was received to this criticism in the previous round of review. The college must take the necessary corrective actions in order to bring its part-time testing policies and practices in line with Board requirements.

The rate of retesting students upon completion of remedial algebra courses fell below the minimum requirement.

In the writing area, the unsatisfactory retest results and relatively weak performance of remediated students in the first (subsequent) college-level writing course suggest the need to reevaluate the college's remedial writing component. No response was received to this same concern in the last cycle of review.

Completers of algebra remediation did not pass their first (subsequent) college-level mathematics course at a rate comparable to the non-remedial students. The college did not respond to a similar criticism in the previous round of review.

Suggestions For Further Inquiry

Might the follow-up results in mathematics signal the need for a distinct remedial effort in computation? Perhaps it would be instructive for the college to investigate the frequency of tested students who satisfy the placement criteria in algebra and yet fall below the Council's recommended minimum cut-score in computation.

MONTCLAIR STATE COLLEGE

Policy Administration

Montclair State College has a history of responding late and (or) incompletely to basic skills reporting deadlines, and this serious shortcoming hindered the assessment of its remedial efforts. Since the previous round of review, in which similar reporting inadequacies were highlighted (but not formally responded to), there has been little change in the undesirable pattern despite correspondence and assurances to the contrary.

At the time of this writing (April 1991), the college still owed retest data and descriptive (narrative and self-study) accounts for the 1986(-88) and 1987(-89) reports, originally due in 1988 and 1989 respectively, plus the entire 1989 Annual Basic Skills Questionnaire (due June 1990) and 1988(-90) report (due August 1990). The absence of a program description and self-study made it especially difficult to understand the meaning behind the numbers.

In 1987, Montclair State College tested 98% of its full-time and 96% of its part-time students requiring placement testing, which met the standard. Further, their placement testing performance has been consistently high for at least five consecutive years.

The reported two-semester enrollment percentages for full-time, identified students in 1987(-88) were 88% in reading, 98% in remedial writing, 92% in computation and 77% in elementary algebra. The rates in writing and computation met the minimum standard, but those for reading and elementary algebra did not and reflected a decline in performance from the previous round. Of even greater concern, the minimum two-semester enrollment expectation was achieved for only one out of the four skill areas in each of the two prior cohorts. It should be noted that data were missing on the students who were placed directly into remedial algebra without having to complete course work in computation, contrary to reporting requirements of the Basic Skills Council; this might partially explain the unsatisfactory two-semester enrollment percentages for elementary algebra.

By the fourth semester (1987-89 cohort), less than 1% of the full-time, identified students in writing and 4% of those identified for computation had yet to begin the necessary intervention, which met the standard in both areas. On the other hand, 6% each of the full-time students identified for remedial reading and elementary algebra had yet to begin their remedial course work by the fourth semester, which missed the standard by one percentage point.

No retesting data were furnished by the institution, contrary to Board of Higher Education requirements and reporting guidelines of the Basic Skills Council. The lack of these data was especially serious, in light of the absence of a response to the same concern in the previous cycle of review.

According to the most recently submitted annual questionnaire (1988-89), the institution continues to award graduation credits for its remedial writing course ("Basic Composition 100"), in violation of Board policy and despite a counter-recommendation in 1986 by a panel of consultants commissioned by former Chancellor Hollander.[1] Neither did the college submit requested materials for evaluation by the

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[1] In 1986 three consultants, including two from out-of-state, met with staff to review and discuss the issue of awarding graduation credits for remedial and developmental courses. Their specially appointed task was "to evaluate the arguments advanced for such policies and to make recommendations based on

consultants at that time nor did it respond to their final report. The recommendation to discontinue awarding graduation credits for the remedial writing course should be addressed immediately by the institution and followed up by the Department.

Remedial Areas

Reading

Placement Criteria. Placement in a remedial reading course was based on an NJCBSPT-RC score of 166, which met the standard and was five scaled-score points above it. This resulted in the identification of 39% of the full-time and 49% of the part-time test-takers for reading remediation.

Remedial Course Outcomes. Ninety-four percent of full-time students and 93% of part-time students who enrolled in reading remediation successfully completed it within four semesters. No data were reported for retesting, contrary to Board of Higher Education requirements and reporting guidelines of the Basic Skills Council. The institution has not furnished these data since 1983(-85).

Subsequent Academic Performance. Ninety-four percent of the students who successfully completed remediation passed their first (subsequent) college-level course, compared to 98% for the non-remedial comparison group. The difference met the standard, as it has for several consecutive cohorts. These passing rates were unusually high. There was a 17 percentage-point difference in GPA's at or above "C" between remediated and non-remedial students (77% and 94% respectively), which missed the standard by two percentage points and reflected a decline from the previous two cohorts.

Completers of remediation (1987-89) returned in the fourth semester at a rate of 78%, compared to 76% for the non-remedial students, which met the standard. Apparently the standard was also met in the previous two cohorts. Curiously, however, the rates reported for the 1986(-88) cohort were 92% and 90% respectively, which raised questions about the accuracy of retention rates reported by the institution. The SSR for the remediated students was 60%, and for non-remedial students 71%; the 11 percentage-point difference did not meet the standard.

In summary, the reading program exhibited some strengths and some areas of concern. For three years the program has met the standards on the first college-level course passing rate and retention (assuming the rates reported for the latter were accurate). On the other hand, the GPA and SSR results represented declines from prior performances. The absence of retest data made it difficult to evaluate the unusually high passing rates in the first (subsequent) college-level course.

Writing

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those evaluations." The consultants' final report (full text) appears in Appendix C. Selected excerpts specific to Montclair's remedial writing course are repeated here. "There was...nothing to indicate that its content included college-level material....The catalog description indicates that students are placed in the course based on their [NJCBSPT] scores...and that class meetings and tutorial sessions are designed "to raise students' skills to college standards"....This cut-off score [Total English 160] is among the lowest in New Jersey....we are struck by what appears to be under-identification of students in need of remedial writing...Based on these considerations, we conclude that the content of Basic Composition is indeed pre-college level and the course should not carry graduation credit. The argument that MSC students are required to earn 128 credits for their degrees, eight more than the state-mandated minimum, does not, of course, address the issue of the course's purpose or content. It seems to us, however, that...a student placed in remedial writing should not graduate with fewer college-level courses than one placed in regular freshman composition....In recommending against graduation credit...therefore, we are suggesting that, in its remedial writing program, MSC follow the same guidelines as in its remedial mathematics program...."

Placement Criteria. Placement in a remedial writing course was based on an NJCBSPT-Total English score of 160, which missed the minimum standard by one scaled-score point. The likely under-identification of students was pointed out in the previous round of review [and in the consultants' evaluation of credits awarded for remedial writing -- see footnote]; however, the institution has not responded to this concern. In 1987, 17% of full-time and 28% of part-time students were identified for writing remediation.

Remedial Course Outcomes. Ninety percent of both full- and part-time students who enrolled in remedial writing successfully completed it by the end of four semesters. No data were reported for retesting, contrary to Board of Higher Education requirements and reporting guidelines of the Basic Skills Council. The institution has not furnished these data for remedial writing since 1983(-85).

Subsequent Academic Performance. Remediated students as a group had a 92% passing rate in the first (subsequent) English composition course, compared to 96% for the non-remedial students; the difference met the standard and reflected improvement since the prior cohort. These passing rates were high. On the other hand, there was a 32 percentage-point difference in percent GPA at or above "C" between the students who completed remediation and those not needing it (61% and 93% respectively), which missed the standard by a wide margin. The GPA differentials were similar in 1985(-87) and 1986(-88).

Completers of remediation returned in the fourth semester at a rate of 66%, compared to 76% for their non-remedial counterparts; this 10 percentage-point difference missed the standard by a wide margin and presumably indicated a decline in performance since the prior cohort. However, the unusually high rates reported for the 1986(-88) cohort (95% and 90% respectively) raised questions about the accuracy of this interpretation.

The SSR standard was not met in 1987(-89), as in the prior two cohorts. Remediated students had an SSR of 40%, compared to 70% for the non-remedial students, which missed the standard by 23 percentage points.

Overall, results for the remedial writing program were unfavorable, with exception of the first (subsequent) college-level course comparison. However, the lack of retest data and the unsatisfactory placement criterion clouded interpretation of the one positive finding.

Computation

Placement Criteria. In 1984(-86) the criterion used for placement in computation was NJCBSPT-MC 165, which met the minimum placement standard. However, by 1987 the institution had lowered its placement cut-score to NJCBSPT-MC 163, which missed the minimum placement standard by two scaled-score points. This resulted in the remedial identification of 17% of full-time and 39% of part-time students.

Remedial Course Outcomes. Eighty-five percent of full-time students and 97% of part-time students who enrolled in computation successfully completed the remedial course by the fourth semester. Despite the availability of retesting data for the previous (1986-88) cohort, no such data were reported for 1987(-89), contrary to Board of Higher Education requirements and reporting guidelines of the Basic Skills Council. Eighty-nine percent of the remediated students in the prior cohort attained the college's unsatisfactory cut-score (NJCBSPT-MC 163) on the retest; however, the percent of students attaining an NJCBSPT-MC 165 could not be ascertained.

Subsequent Academic Performance. Students completing computation remediation passed their first (subsequent) college-level course at a rate that was 13 percentage points lower than that for the non-remedial students in the same course (82% and 95% respectively), which missed the standard by a wide margin and represented a significant decline in performance from the previous round of review (1984-86). Although the passing rate for the non-remedial comparison group was quite high (which by itself might indicate that the criticism was unfounded), the fact that the standard was missed by even wider margins in the prior two cohorts helped to confirm that a negative interpretation was warranted.

In 1987(-89), there was a 23 percentage-point difference between the two student groups in percent GPA at or above a "C" (68% for remediated and 91% for non-remedial students), which missed the standard. Furthermore, the GPA comparison missed the standard by similar margins in the prior three cohorts as well.

Remediated students returned in the fourth semester at a rate of 71%, which was below the rate for non-remedial students by five percentage points (76%); this result missed the standard. Of concern, the rate reported for remediated students in the previous (1986-88) cohort was 94%, which indicated either a substantial performance decline or discrepant data between the two sets of results. On SSR, the computation program has missed the standard by wide margins over several consecutive cohorts. In 1987(-89), the two rates were 48% and 69% respectively, a 21 percentage-point differential which missed the standard by 14 percentage points.

In short, not only were students likely under-identified for computation, but those who enrolled in the program as a group exhibited unfavorable results on every available indicator.

Elementary Algebra

Placement Criteria. For students in certain (unspecified) curricula which reportedly required mathematics, placement in remedial algebra was based on a single measure: an NJCBSPT-EA score of 165, which missed the minimum placement standard by two scaled-score points. Students with majors in science, mathematics and business administration were apparently held to a higher cutoff score (NJCBSPT-EA 176) and were required to complete Intermediate Algebra. The placement practices, as reported, were ambiguous, and the difficulty with interpretation was attributed at least in part to the missing narrative. In 1987, 38% of full-time and 63% of part-time students were identified for elementary algebra.

In response to the Board's recent action aimed at tightening the "algebra-as-a-basic-skill" requirement, the institution has since indicated that it is "not currently in compliance with the revised algebra expectations but will be by the Fall of 1992."

Remedial Course Outcomes. Ninety-six percent of full-time students who began elementary algebra completed the program by the fourth semester. The percentage of part-time enrollees who completed elementary algebra (presumably high) could not be accurately determined due to discrepancies in the reported data. Despite the availability of retesting data for the previous (1986-88) cohort, no such data were reported for 1987(-89). Thus the institution did not fulfill Board of Higher Education requirements and reporting guidelines of the Basic Skills Council. Ninety-six percent of the remediated students in the prior cohort attained the college's unsatisfactory retest cut-score (NJCBSPT-EA 165); however, the percentage of students attaining an NJCBSPT-EA 167 was unavailable.

Subsequent Academic Performance. Remediated students passed the first (subsequent) college-level mathematics course at the rate of 96% (n=220) compared to 100% for the non-remedial comparison group (n=13), which met the standard. These passing rates were unusually high. Questions were raised about the small number of non-remedial students followed for this comparison in 1987(-89), especially since the institution reportedly followed 348 non-remedial students in the prior cohort.

In 1987(-89), the program also met the standard on the percent of students attaining a cumulative GPA at or above "C." A seven percentage-point differential separated the two groups' performance on this indicator (85% vs. 92% respectively). Similarly, the GPA standard was met in 1985(-87) and 1986(-88).

On retention, those who completed elementary algebra returned in the fourth semester at a rate of 81%, compared to 76% for their non-remedial counterparts (which met the standard). Results were similarly favorable on SSR: the SSR for remediated students was 69%, as compared to 70% for the non-remedial students; this narrow margin met the standard and indicated improvement over the prior cohort.

In summary, the algebra program exhibited uniformly positive student outcomes on the available indicators, with signs of improvement over time. A favorable interpretation, however, was obscured by the unsatisfactory placement criterion, absence of current retest data and various reporting inadequacies noted above.

Overview

Strengths

Montclair State College's placement testing rates for full- and part-time students have been consistently high for at least five consecutive years.

In the writing and computation areas (1987-89), the college succeeded in enrolling almost all of its identified, full-time students in appropriate remedial courses within two semesters. The percentage of full-time students present in the fourth semester who had not yet begun needed remediation in writing has been only 1% or less for each of three years.

For three years the reading program has met the first college-level course passing rate and retention standards.

The elementary algebra program exhibited uniformly positive student outcomes on the available indicators, with signs of improvement over time. A completely favorable interpretation, however, was obscured by the unsatisfactory placement criterion, absence of retest data and other reporting inadequacies.

Areas of Concern

Montclair State College has a history of late or inadequate basic skills reports, a pattern that continues despite assurances to the contrary. The college's failure to provide descriptive (narrative and self-study) accounts for two consecutive cohorts seriously hampered the review of this college's remedial efforts. In addition, the college had not submitted its 1989 Annual Basic Skills Questionnaire (due June 1990) and 1988(-90) report (due August 1990). These chronic violations require direct and immediate attention.

Similarly, no retesting data were furnished by the institution for any skill area in 1987(-89), despite the availability of such results for the mathematics areas in 1986(-88). The lack of these data was especially serious, in light of the absence of a response to the same concern in the previous cycle of review. The missing data made it difficult to evaluate the unusually high passing rates in the first (subsequent) college-level courses.

Certain key data were discrepant and (or) were calculated incorrectly by the institution. For example, questions were raised about the accuracy of the institution's retention data (all areas), on account of the unexplained wide swings in the absolute values from one year to the next. All reported SSR's in the 1987(-89) report had to be recalculated. Curiously, the institution followed only 13 non-remedial students for the first (subsequent) college-level course comparison in elementary algebra, even though 348 such students were followed in the prior cohort.

The institution has been awarding graduation credits for its remedial writing course, in violation of Board policy and despite a counter-recommendation in 1986 by a panel of consultants commissioned by former Chancellor Hollander (see footnote). This requires immediate action by both the institution and the Department of Higher Education.

The NJCBSPT cutoff scores used for placement in three of the skill areas -- writing, computation and elementary algebra -- fell short of the long-standing minimum standards. This is especially significant in the writing area, in light of the absence of an institutional response to prior notification. There are three likely consequences of a program's failure to meet the minimum placement standards: (1) the program under-identified and thus under-served its students, (2) student outcomes for the "non-remedial" comparison group were compromised, raising the possibility of "false-positive" results, and (3) students were held to a less stringent retest standard. The college should tighten its placement and identification policies.

In the reading and elementary algebra areas, the institution missed the minimum two- and four-semester enrollment expectations (in 1987-89), a decline in performance from the previous round of review. Of even greater concern, the minimum two-semester enrollment standard was achieved for only one out of the four skill areas in each of the prior two cohorts. The institution needs to bring its enrollment rates (both two- and four-semester) in line with minimum expectations. In addition, it should provide enrollment data for the students who are placed directly into elementary algebra (i.e., without having to complete course work in computation) per the Council's reporting guidelines.

In reading, the GPA and SSR results represented declines in performance from prior years.

Results on student outcomes for the remedial writing program were generally unfavorable, with exception of the first (subsequent) college-level course performance. However, the lack of retest data and the unsatisfactory placement criterion clouded interpretation of the one positive finding.

In computation, those who enrolled in the program as a group exhibited unfavorable results on every available indicator, including retention. The uniformly negative results should be investigated by the institution.

RAMAPO COLLEGE OF NEW JERSEY

Policy Administration

In 1987, Ramapo College tested 97% of the full-time and 74% of the part-time students requiring placement testing. The full-time rate met the Board's minimum testing requirement, as it has for five consecutive years, but the part-time rate did not. Moreover, the institution has not met the minimum part-time testing expectation since 1983. [In 1988, the part-time testing rate was only 56%.] To this criticism in the previous round of review, the institution responded:

> "More than half of our new, part-time students are non-degree seeking adults who register for one or two courses per term to satisfy a variety of job-related needs. These returning adults generally take courses for only one to three semesters. We, therefore, contend that it is unnecessary and unreasonable to require basic skills assessment for these students."

We remind the institution that it is a long-standing requirement of the Board of Higher Education that such students be tested at the point in which they register for a course that would result in the accumulation of 12 or more credits.

Of the full-time students identified for remediation, Ramapo succeeded in enrolling within two semesters 88% in reading, 94% in writing, 69% in computation, and 84% in elementary algebra. The enrollment rate for writing met the Board's minimum standard, whereas for reading, computation and elementary algebra it did not. In addition, the two-semester enrollment percentages in the mathematics areas missed the standard by a wide margin. By the fourth semester fewer than 5% of the identified students who were still present had yet to begin the necessary remedial work in each of the four areas, which met the standard.

The college successfully administered retests to the students who completed remediation at the following rates: 100% in reading, 100% in remedial writing, 100% in computation and 99% (i.e., 216 out of 219 students) in elementary algebra; these high "capture" rates met the standard.

Remedial Areas

Reading

Placement Criteria. The college used a score of 168 on the NJCBSPT-RC as its criterion for placement, which met the standard and was seven scaled-score points above it. This resulted in 64% of the full-time and 56% of the part-time students being identified for remediation.

Remedial Program Outcomes. Of the full-time students enrolled in remedial reading, 86% successfully satisfied all remedial requirements by the fourth semester (17% of these through means other than course work). The completion rate for part-time students was difficult to interpret due to data discrepancies.

Nearly 100% of the students who successfully satisfied all remedial requirements in the skill area -- that is, 201 of a possible 202 students -- attained the college's minimum score on the retest (-RC 167) or fell within one SEM of it, which met the standard. [Had the institution used a retest cutoff score of -RC 168, this result would have been unchanged.]

Subsequent Academic Performance. Students who completed reading remediation at Ramapo performed almost as well as their non-remedial counterparts in the first (subsequent) college-level course (94% and 97% respectively), which met the standard. It should be noted that the passing rate for remediated students was high. On the broader academic indicator, 69% of the remedial completers had cumulative GPA's at or above "C," compared to 89% of the non-remedial students; this 20 percentage-point gap in GPA performance did not meet the standard.

Remediated students returned in the fourth semester at a higher rate (72%) than their non-remedial counterparts (67%), which met the standard. The remedial completers posted a cumulative SSR of 50%, compared to the 59% of the non-remedial students. The difference missed the standard by two percentage points.

The passing rates in the first (subsequent) college-level course, retention rates and strong retest results were positive indications in favor of the reading program. However, the GPA and SSR comparisons detracted from these otherwise positive signs.

Writing

Placement Criteria. Placement in remedial writing at Ramapo was accomplished using a cut-score of 8 on the NJCBSPT-Essay, which met the standard. The Sentence Sense test was not used for remedial placement. In 1987, 64% of the full-time and 75% of the part-time test-takers were identified for remediation.

Remedial Program Outcomes. Of the full-time students who enrolled in remedial writing, 87% successfully satisfied all the remedial requirements by the fourth semester. One hundred percent of the 13 part-time students also completed the program (46% of these through means other than course work). Ninety-nine percent (235 of 237) of the students who successfully satisfied all remedial requirements attained the college's minimum score on the retest or were within one SEM of it, which met the standard.

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at the rate of 92%, compared to 97% for the non-remedial students; this five percentage-point difference met the standard. Further, these passing rates were high. Completers of remediation as a group were 21 percentage points behind their non-remedial counterparts in the percent cumulative GPA's at or above "C" (67% and 88% respectively); this difference did not meet the standard.

Completers of remediation returned in the fourth semester at a higher rate than the non-remedial students (72% vs. 70%), which met the standard. The SSR for the remediation-completed students was 49%, compared to 62% for the non-remedial students. The 13 percentage-point difference in SSR did not meet the standard.

The pattern of performance in the writing program was mixed, with the weak GPA and SSR comparisons detracting from the otherwise favorable outcomes. However, the strong retest results and high passing rates in the first (subsequent) college-level courses were especially positive signs.

Computation

Placement Criteria. Ramapo placed students in computation using a cut-score of 176 on the NJCBSPT-MC, which met the standard and was above it by 11 scaled-score points. Twenty-three percent of the full-time and 56% of the part-time students were identified for remediation in computation.

Remedial Program Outcomes. Of the full-time students who enrolled in computation, 65% successfully satisfied all the remedial requirements by the fourth semester (11% of these through means other than course work). All four of the part-time enrollees also completed the remedial program.

On the retest, 98% of the students who successfully satisfied all remedial requirements attained the college's minimum score on the retest (NJCBSPT-MC 173) or were within one SEM of it, which met the standard. [Had the institution used a retest cutoff score of -MC 176, this result would have been 92%, still within the standard.] The mismatch between placement and retest cutoff scores raised questions about the exit criteria employed in the program.

Subsequent Academic Performance. Remediated students passed their first (subsequent) college-level course at the rate of 64%, as compared to 91% of the non-remedial students. This 27 percentage-point difference did not meet the standard. However, only 14 remediated students were followed, which raised questions about the meaningfulness of the comparison. The percentages of GPA's at or above "C" for the remediation completers and the non-remedial students were virtually identical (at 77%), which met the standard.

On retention, 75% of the remediated students returned in the fourth semester, compared to 68% for the non-remedial comparison group, which met the standard and reflected marked improvement over results in the previous round of review. Remediated students collectively had an SSR of 58%, compared to 53% for the non-remedial students. The difference in SSR's met the standard and was a reversal of the typical pattern.

In summary, the weak first (subsequent) college-level course performance (albeit based on a small sample size) detracted somewhat from the otherwise favorable student outcomes. In addition, the retention of remediated students appeared much improved over results examined in the previous round of review. The mismatch between placement and retest cut-scores, however, raised questions about the program's exit criteria.

Elementary Algebra

Placement Criteria. In 1987, an NJCBSPT-EA score of 177 was used for remedial algebra placement at Ramapo. This cutoff score met the standard and was above it by ten scaled-score points. Seventy-six percent of the full-time students and 100% of the part-time students were identified for remedial algebra. All students who fell below the cut-score were required to take the remedial algebra course.

Remedial Program Outcomes. Of the full-time and part-time students enrolled in remedial algebra, 78% and 65% respectively satisfied all remedial requirements by the fourth semester (11% and 12% respectively through means other than course work). Of the students who successfully satisfied all remedial requirements, 98% attained the college's minimum score on the retest (NJCBSPT-EA 182) or fell within an SEM of it, which met the standard. Note that the retest cut-score used was five scaled-score points higher than the college's placement cutoff score.

Subsequent Academic Performance. The passing rate in the first (subsequent) college-level math course for remediated students was 91%, eight percentage points below the passing rate for non-remedial students in the same course (99%); the difference did not meet the standard. However, the passing rates for both groups were high; therefore, this comparison may not have yielded a useful criticism.

As to the broader academic indicator, 77% of the remediated students attained a cumulative GPA at or above "C," eight percentage points below the performance of the non-remedial comparison group (85%); the difference met the standard.

Students who completed remedial algebra returned in the fourth semester at a rate nearly equal to that for the non-remedial students (74%), which met the standard. The SSR for the remediation-completers collectively was 57%, as compared to 63% for the non-remedial students. This six percentage-point difference met the standard.

Overall, the strong retest results, high passing rates in the first (subsequent) college-level course, and the favorable GPA, SSR and retention comparisons all pointed to a successful remedial effort.

Overview

Strengths

For five consecutive years, Ramapo has met the Board's minimum placement testing expectation for its full-time students. In addition, the college succeeded in enrolling in remedial courses (all areas) within four semesters almost all identified, full-time students who were present. Over 90% of the full-time students identified for remedial writing had begun the necessary remedial courses within two semesters.

The institution's retest "capture" rates were commendably high in all four skill areas. In addition, 98% or more of the students who completed remediation in each of the areas attained the college's retest cutoff scores (or scored within one SEM). Not only were these retest results impressive, but each of the cut-scores used was more stringent than the Council's recommended minimum score.

In all four remedial areas, retention of remediated students exceeded or essentially matched that of the non-remedial comparison group, and the non-remedial "reference" rates were substantially higher than those observed in the previous round of review. In the computation area, the retention-rate outcome reflected much improvement over prior results.

In the reading and writing areas, passing rates in the first (subsequent) college-level courses for completers of remediation were comparable to those for the non-remedial students, a pattern that has held over several consecutive years. This and the respective retest and retention results were strong signs in favor of the reading and writing programs.

The 1987(-89) student outcomes for the computation and remedial algebra areas were uniformly positive in relation to the standards, with the qualified exception of results in the first (subsequent) college-level courses. In the former area, the small number of students followed into the subsequent course cast doubt on the seemingly negative result. In the latter both passing rates in the follow-up course were unusually high (91% for the remediated students vs. 99% for the non-remedial students), raising questions about the meaningfulness of the missed standard. The especially strong retest results and other favorable outcomes in the two remedial mathematics areas were compelling indications of success for the students placed into these programs.

Areas of Concern

The institution has not met the minimum expectation for placement testing of part-time students since 1983. [Moreover, in 1988 the part-time testing rate was only 56%.] Ramapo's response to this criticism in the previous round of review would suggest a lack of understanding that this is a long-standing requirement of the Board of Higher Education. This administrative shortcoming should be corrected by the college.

While only a few full-time students were present at the fourth semester who had not yet begun their needed remediation, too many students identified for reading, computation and (or) elementary algebra had not enrolled in the first two semesters. A preliminary look at the 1988 data revealed improvement in the case of reading (98%). The institution needs to boost its two-semester enrollment percentages for remedial mathematics, in keeping with Board requirements.

The mismatch between placement and retest cutoff scores in the reading and computation areas raised questions about the programs' exit criteria.

In reading and writing, the unfavorable GPA and SSR gaps should be investigated by the college.

The institution did not furnish its self-analysis of data, contrary to reporting guidelines of the Basic Skills Council. This hampered the committee's review of program effectiveness.

While recognizing the difficulty of finding appropriate follow-up courses that do not require elementary algebra, if at all possible the college should track larger numbers of students in their first college-level course taken subsequent to computation, so that the quality of student performance in the computation area can be better ascertained.

RICHARD STOCKTON STATE COLLEGE

Policy Administration

In 1987, Richard Stockton State College tested 100% of its 740 full-time and 100% of its 50 part-time students requiring testing. Moreover, 100% testing rates were reported for all recent years (from 1983 through 1988). Similarly, for several consecutive years 100% of the students identified for remediation were enrolled in the necessary courses (all skill areas) within two semesters, which met the standard.

By local policy, students were required to demonstrate basic skills proficiency by the end of their first academic year or face dismissal from the college. Consequently, no identified, full-time students remained in the fourth semester without taking the necessary remedial courses (which met the fourth-semester enrollment standard). Stockton retested students who completed remediation at the following rates: 96% in reading, 95% in writing, and 98% in mathematics. Each of the retest "capture" rates met the standard.

Students who failed any basic skills course were required "to demonstrate competency by the end of their second semester by receiving satisfactory scores on the appropriate section(s) of the NJCBSPT." To prepare for this final competency exam, such students were "strongly encouraged to use the tutorial services available at the Skills Center." However, beginning in 1988 students were permitted to re-enroll in a basic studies course that was not completed in the first semester.

Stockton's basic studies (BASK) curriculum was structured differently than at other colleges. Apart from the "College Writing" (BASK 1101) course, each of the two other programs, both in title and in content, fit only loosely into one of the Council's named skill areas. A "Study Skills and Critical Thinking" course (BASK 1102 -- see Reading below) combined instruction in critical reading with thinking and other general academic skills for success in college. In Stockton's view, this course "was not designed primarily as a course in reading, per se, but rather as a course where students would do a great deal of critical reading in order to compare points of view and defend personal opinions."

Beginning in Fall, 1987, a new basic mathematics sequence was introduced (and its results are reviewed here). In place of BASK 1103, the course whose outcomes had been reported previously, two new courses were offered: "Developmental Mathematics" (BASK 1113) and "Quantitative Reasoning" (BASK 1203). In addition, a non-credit tutorial (BASK 1703 -- "Math Workshop") was a co-requisite for the upper-level (BASK 1203) course. The second tier was "integrative in nature, establishing connections between computational skills in arithmetic and algebra and several of the major areas of mathematics...our students not only learn algebra, but learn it in context, in such a way that they appreciate its importance." A traditional remedial course in elementary algebra was not offered. Full details of the changes in mathematics were provided to the Basic Skills Council in a separate report.

A central assumption underlying Stockton's BASK curriculum was that "in order for a basic skills program to be effective it must be embedded as deeply as possible into the college experience." This premise permeated the design of the BASK curriculum in many ways. For example, students received "full academic credit" for most of their BASK courses, in keeping with a recommendation in 1986 by a panel of consultants commissioned by former Chancellor Hollander.[1]

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[1] *In 1986, Chancellor Hollander appointed a panel of consultants to examine whether the awarding of graduation credits for Stockton's BASK courses was in keeping with Board of Higher Education policy. Based on a review of extensive course material, the consultants concluded that "the content of BASK 1101*

Remedial Areas

Reading (Study Skills and Critical Thinking)

Placement Criteria. Stockton used an NJCBSPT-RC cut-score of 163 for placement into BASK 1102, which met the standard and was 2 scaled-score points above it. As a result, 22% of the full-time students and 68% of the part-time students were placed into the program.

Remedial Program Outcomes. Of the students who began the course, 93% of the full-time and 85% of the part-time students satisfied all program requirements within four semesters. These data included students who failed the actual course but then passed the second-semester competency examination. Seventy-two percent of the students who satisfied their requirements through course work attained the college's minimum score on the retest or fell within an SEM of it, which missed the standard by a wide margin. The college responded that "faculty consider this indicator to be the most inappropriate of those specified...because the foundation of our program is the integration of college-level academic experiences...."

Subsequent Academic Performance. Of the students who completed BASK 1102, 90% passed their first (subsequent) college-level course, compared to 97% of non-remedial students; the seven percentage-point differential missed the standard by two percentage points. It should be kept in mind, however, that the non-remedial students performed so well in these courses that the comparison with remediation-completed students may not have yielded a fruitful criticism. Seventy-five percent of the remediated students had cumulative GPA's of "C" or above, as compared to 87% of the non-remedial students; the 12 percentage-point difference met the standard.

Those who completed BASK 1102 returned in the fourth semester at the rate of 77%, compared to 71% for the non-remedial comparison group; the difference in favor of program completers met the standard. Remediated and non-remedial student groups had SSR's of 58% and 61% respectively, which met the standard.

In summary, results for the "Study Skills and Critical Thinking" course were mixed, with results in retesting detracting from the otherwise favorable outcomes. The first (subsequent) college-level course passing rates were unusually high.

Writing

Placement Criteria. In 1987, all students whose NJCBSPT-Essay score fell below 7 were placed into the BASK writing course (which met the standard and was one point lower than the criterion used in previous years). This resulted in the identification of 37% of the full-time and 66% of the part-time test-takers. The Sentence Sense section of the NJCBSPT was not used for placement.

Remedial Program Outcomes. Of the students who enrolled in the writing course, 96% of the full-time students and 91% of the part-time students satisfied all program requirements within four semesters. These data included students who failed the actual course but then passed the second-semester competency examination. Of the successful completers, 89% attained the college's minimum score on the

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(College Writing) and BASK 1102 (Critical Thinking) justifies the graduation credits each of those courses carries; however, BASK 1103 (Quantitative Reasoning)...should not carry graduation credit." The consultants' final report (full text) appears in Appendix C. The college accepted these and other recommendations and has since revised its mathematics curriculum. According to the institution, the new BASK 1113 ("Developmental Mathematics") course "contains primarily pre-college material; consequently, it carries [only] additive credit (credit not applicable toward the degree)." In contrast, the new BASK 1203 ("Quantitative Reasoning") course "contains college-level material; consequently, it carries graduation credit."

retest or scored within an SEM of it, which missed the standard by one percentage point. [Note that a preliminary review of a more recently submitted report revealed that the retest standard was met in 1988-90, using ETS (not local) scores.]

Subsequent Academic Performance. Ninety-four percent of remediated students and 93% of the non-remedial students passed the first (subsequent) college level courses, which met the standard. These passing rates were high. Remediated students as a group attained GPA's at or above "C" at a rate of 81%, compared to 86% for the non-remedial students; this five percentage-point differential met the standard.

Completers of the writing course returned in the fourth semester at a rate of 73%, compared to 71% for the non-remedial students, which met the standard. The SSR's for the two groups were 59% and 61% respectively, which met the standard.

In summary, the outcomes for the BASK writing course were nearly uniformly positive. Note that the retest results (albeit based solely on the Essay) missed the standard by only a single percentage point.

Computation (Developmental Mathematics & Quantitative Reasoning)

Placement Criteria. Students who scored below 167 on the NJCBSPT-EA were placed in the mathematics sequence, which met the standard. Students who scored below 167 on the NJCBSPT-MC were also placed into the sequence, which met the NJCBSPT-MC standard and was above it by two scaled-score points. In previous years, only the NJCBSPT-MC was used for mathematics placement. In 1987, 32% of the full-time and 90% of the part-time students were identified for the mathematics program. All students who fell below the cutoff scores were placed into the program, irrespective of major. The sequence included some topics in elementary algebra.

Remedial Program Outcomes. Of the students who enrolled in the program, 93% of the full-time students and 71% of the part-time students (22% of the latter through means other than course work) successfully satisfied all developmental requirements in mathematics. These data (i.e., "completion through other means") included students who failed the actual course(s) but then passed the competency examination.

Of the 215 students who successfully completed the mathematics sequence and were retested, 89% attained the college's minimum level on the NJCBSPT-MC retest or scored within an SEM of it, which missed the standard by one percentage point. Of these same students, 84% attained the college's minimum retest score on the NJCBSPT-EA or scored within an SEM of it, which did not meet the standard.

Subsequent Academic Performance. The remediated students passed their first (subsequent) college-level course at a rate nearly identical to that of the non-remedial students (92%), which met the standard. Furthermore, these passing rates were high. Seventy-seven percent of the students who completed the sequence had GPA's at or above "C," compared to 87% of the non-remediation students; the ten percentage-point differential met the standard.

Retention rates for the two groups of students were nearly identical (72.5% vs. 72.6% respectively), which met the standard. On the other hand, the SSR's were 55% for completers of the sequence and 63% for their non-remedial counterparts, which missed the standard by one percentage point.

Overall, results for the developmental mathematics sequence were positive, with below-standard performances on retesting and SSR (albeit by slim margins) detracting from the otherwise favorable signs. The NJCBSPT-EA retest results would indicate the need to examine whether students were receiving ample exposure to "traditional" elementary algebra concepts.

Elementary Algebra

The institution did not offer a separate course in elementary algebra.

Overview

Strengths

For at least five consecutive years Stockton has done a commendable job of entrance-testing and placing its students in the required remedial/developmental courses. Indeed, the college satisfied each and every "Policy Administration" standard for the 1987(-89) review cycle.

The institution's 1987(-89) report included the required retest data, an improvement from the previous round of review. Further, each of the retest "capture" rates met the minimum standard.

Passing rates in the first (subsequent) college-level courses for completers of remediation were high across the three skill areas. In the "Study Skills and Critical Thinking" course, the missed standard on this indicator may not have yielded a fruitful criticism.

In each of the three areas, remediated students returned in the fourth semester in higher percentages than their non-remedial counterparts, and the pattern has held constant over several cohorts. In addition, the GPA comparisons across the skill areas were favorable.

Outcomes for the BASK writing course were nearly uniformly positive, arguing for a successful remedial effort. In addition, the overall results for computation were favorable.

The college is actively pursuing ways to strengthen its own "basic studies" programs and policies. For example, the mathematics curriculum has been thoroughly revised. Beginning in 1988, students were permitted to re-enroll in a BASK course that was not completed in the first semester, effectively doing away with the previous "one semester only" model of remedial course work. These and other developments were carefully highlighted in the institution's reports.

Areas of Concern

The lack of a remedial effort specifically designed for students who lack proficiency in reading continues to be of great concern. The course which was designated under "reading" presented a mixed set of results. However, the weak NJCBSPT-RC retesting outcome suggests that the institution should be prompted to reexamine whether such a course genuinely serves the needs of reading-deficient students.

Similarly, although the overall results for the developmental mathematics sequence were positive, the NJCBSPT-EA retest results would indicate a possible need to examine whether the students were receiving ample exposure to "traditional" elementary algebra concepts. The college wrote that it would be ideal "to continue our current configuration of [integrated content] courses and raise the cut-off score for BASK 1203/1703 to 175-176." This approach might help to ensure that students are given the necessary mathematics proficiency.

THOMAS A. EDISON STATE COLLEGE*

Policy Administration

All students in the 1987 cohort were defined as part-time (see footnote). Of the 166 students reportedly required to be placement tested, only 56-58% (depending on skill area) were tested, which missed the 90% minimum standard by a wide margin. Similarly, only 63% and 50% were tested in 1985 and 1986 respectively [and 46% in 1988]. These low rates of testing were attributable, at least in part, to a variety of special circumstances.

First, many of the students were adults with full-time jobs, which confounded the scheduling of testing sessions. Second, the above rates reflected the extent to which Edison State College had received test scores from remote testing sites, which under-represented the actual rate of testing. Prior to 1987, the institution was responsible for testing both in-state and out-of-state students. However, the difficult task of training test administrators in other states and monitoring the multitude of remote placement activities grew to be especially burdensome and expensive. In June 1987 Edison State College appealed to the Basic Skills Council for an alternative mode of out-of-state testing/monitoring, and as a result the Council waived the requirement for testing out-of-state students with the NJCBSPT. Instead, it was agreed that Edison State College would monitor out-of-state students for the completion of credit-bearing English composition and mathematics/computer science courses.

In each of the above testing percentages, the "required to be tested" base upon which the rate was calculated (drawn from the institution's response to the Annual Basic Skills Questionnaire) apparently included the out-of-state students; this hampered the assessment of this institution's commitment to placement testing. (The discrepancy was acknowledged in Edison State College's 1987 report). In the future, use of the term "required to be tested" should be restricted to the in-state students properly falling under the amended testing requirement. Moreover, in future submissions it would be useful for the institution to provide much needed explanations and guidance in interpreting its unique data. Specifically, the college should begin responding to the "self-analysis" section of the Council's reporting guidelines (e.g., for applicable "policy administration" aspects).

While no standard has been established for the enrollment of identified, part-time students, in 1987 the college enrolled within two semesters at least two students (11%) in reading, 6 students (30%) in remedial writing, six students (15%) in computation and 19 students (24%) in elementary algebra. The corresponding four-semester enrollment rates were as follows: in reading, 4 students (25%); in writing, 7

Thomas A. Edison State College offers external degrees to mid-career adults. There is no instruction given at the college. Students enroll in classes at other colleges (throughout the state and nationwide) to satisfy remedial and degree requirements. Other procedures for awarding academic credits (e.g., portfolio evaluation and testing) are also used. Students are defined as part-time only and are reported on as recorded in the calendar year January 1-December 31. Most students enter the institution with at least 30 credit hours from other colleges. Consequently, the majority of the entering students are not, by Board policy, required to take the NJCBSPT. Further, by special arrangement (as of June 1987) Edison students receiving instruction in states other than New Jersey are not required to take the NJCBSPT; rather, such students are subject to the placement testing systems of their host colleges, including remedial courses where appropriate. In New Jersey, Edison students are included in the data reported by other colleges. The institution's primary responsibilities regarding skills-deficient students are to administer the NJCBSPT (when required), place, and certify completion of necessary remedial courses.

students (41%); in computation, 9 students (24%); and in elementary algebra, 22 students (27%). The pattern at Thomas Edison for the enrollment of part-time students is that the rates are low after two semesters, but they tend to improve at the four-semester interval; in the 1985 and 1986 cohorts this pattern generally held constant. Thomas Edison notifies students with basic skills needs that the appropriate course work must be completed, and the students are then expected to satisfy remedial requirements at other institutions. Since Thomas Edison receives all student information via transcripts, their "enrollment" rates reflect not just enrollment per se but rather *completion* of remedial courses.

Thomas Edison reported the following numbers of identified students who had returned in Spring 1989 (i.e., in the fourth semester) but had not yet "enrolled" in the required remedial courses: in reading, 7 students (43.8%); in writing, 2 students (11.8%); in computation, 10 students (26.3%); and in elementary algebra, 33 students (40.2%). No standards have been set for the enrollment of part-time students; nevertheless, it appeared that too many students were delaying their remediation beyond the fourth semester. However, the institution's report cautioned that many of these students may have, in fact *begun* (and simply not completed) one or more remedial courses by that point in time.

To the credit of the state college, it not only highlighted as goals in its report "increas[ing] the percentage of students taking the NJCBSPT" and "increas[ing] the percentage of students completing remediation," but it described a promising new tracking system by which students are contacted monthly (through written correspondence and telephone) to emphasize the importance of enrolling in and completing the necessary remedial course work. Additionally, the institution now "restricts the transcription of credits beyond 29 semester hours if the student has not completed remediation." These developments are expected to help strengthen the institution's standing in basic skills.

Remedial Areas

All Areas

Placement Criteria. Thomas Edison reportedly set its placement scores at the median of the scores used by the other eight state colleges. This resulted in the following placement criteria: NJCBSPT-RC 165 for reading, -SS 164 and Essay 7 for writing, -MC 166 for computation, and -EA 176 for elementary algebra. Each of these criteria met the minimum standards, and the criteria for the multiple-choice sections of the test were above the standards by 1-9 scaled-score points. Application of these criteria resulted in the identification of 16 test-takers (17%) for reading, 17 (18%) for writing, 38 (40%) for computation, and 82 (88%) for elementary algebra. The algebra requirement pertained to all students (in all programs) at Thomas Edison; indeed all programs required intermediate algebra.

Remedial Program Outcomes. Completion rates (i.e., "part-time" enrollees who had successfully satisfied all remedial requirements in a given skill area by the fourth semester) were reported as follows: 1 student (25%) in reading, 3 students (43%) in writing, 3 students (33%) in computation, and 8 students (36%) in elementary algebra. The new tracking program and transcription restriction policy likely will boost future rates of completion. No retest results were furnished by the college, since all courses were taught elsewhere (and since Thomas Edison students were included in the data reported by other New Jersey colleges).

Subsequent Academic Performance. Edison State College did not offer academic course work. Students fulfilled course requirements at other institutions and were tracked by the host institutions. In addition, results for part-time students were not called for in the Council's reporting guidelines. For these reasons, subsequent academic performance data were not available.

Overview

Strengths

Edison State College has taken several important steps to ensure that larger proportions of the required students are tested and complete remediation. The institution formally schedules 12 NJCBSPT administrations per year, with individual testing offered by special arrangement whenever needed. For maximum convenience, students can also take the test and any needed remedial instruction at any of the public four-year and two-year colleges throughout the state. An improved system of informing students of their needs and monitoring progress has been implemented, and a full-time administrative assistant for basic skills was hired. A new policy that restricts the transcripting of credits for students with unmet remedial needs should also help to boost enrollment and completion rates.

Areas of Concern

The institution needs to improve its record of testing students and monitoring their remedial progress, as acknowledged in the college's own report submissions. Future reports will hopefully reveal such improvement.

The number of students "required to be tested" (used in the calculation of placement testing rates) apparently included out-of-state students who no longer fall under the provision; this made it difficult to interpret the exceptionally low rates of testing. In the future, use of the term "required to be tested" should be restricted to the in-state students properly falling under the amended testing requirement. This will result in data that can be understood using the committee's frame of reference.

Moreover, in future reports the institution should provide much needed guidance in interpreting its unique data. Specifically, the college should begin responding to the "self-analysis" section of the Council's reporting guidelines (e.g., for "policy administration" and other applicable topics). Its reports should highlight in detail whatever explanations and special interpretations are necessary in order to fully understand all numerical data and resolve apparent discrepancies.

TRENTON STATE COLLEGE

Policy Administration

Trenton State College has a commendable record of testing nearly 100% of its entering students (full- and part-time) over several consecutive years, including 1987 (thus meeting the Board's minimum expectation). The only apparent break in its testing performance was in 1986 for part-time students (83%, which did not meet the standard).

In 1987, Trenton State enrolled 92-98% of its identified, full-time students in reading, writing, computation and elementary algebra courses within two semesters, as has been the pattern over several cohorts (with the noted exception of writing in 1986, 86%); these enrollment rates met the Board's minimum standard. Similarly, only 0-3% of the identified, full-time students present in the fourth semester had not yet begun their needed remediation in each of the four areas, which met the standard. The four-semester percentages in 1987 reflected improvement over results for 1984 and were consistent with the institution's performance in 1985 and 1986.

Students who satisfied their remedial requirements through course work were retested at the following rates: 92% in reading, 97% in writing, and 99% in elementary algebra. The above rates for writing and algebra met the standard but that for reading did not.

As for computation, the institution reported retest scores for 138 students who presumably completed remediation in this area. However, the retest "capture" rate could not be ascertained for the following reason. Trenton State's data base did not carry course grades for computation; instead, for purposes of this study remedial course "completion" and "passing" designations were reconstructed on the basis of whether NJCBSPT-MC retest scores had been recorded. Thus several questionable assumptions were made in the compilation and reporting of all follow-up data for computation, and this shortcoming made it nearly impossible to gauge the effectiveness of the program. The problem reportedly has since been corrected; however, this could not be confirmed on account of the institution being behind in its submission of data for the 1988 cohort.

Remedial Areas

Reading

Placement Criteria. Placement in a remedial reading course was determined based on an NJCBSPT-RC score of 166, which met the standard and was five points above it. This resulted in 17% of the full-time and 20% (1 of 5) of the part-time test-takers being identified for reading remediation.

Remedial Program Outcomes. Ninety-six percent of the full-time students and the one part-time student who enrolled in reading remediation successfully completed remediation by the end of four semesters. Ninety-four percent of the students who successfully satisfied the remedial requirements in reading (and for whom retest scores were available) attained the college's minimum score on the retest (-RC 165) or scored within one SEM of it, which met the standard. [This result would have been 93% with an -RC score of 166.]

Subsequent Academic Performance. On the first (subsequent) college-level course indicator, the students who completed reading remediation had a 92% passing rate in the follow-up course, compared to 98% for the non-remedial students; the six percentage-point difference missed the standard by one percentage point and represented a decline in relative performance from the previous three cohorts. However, since passing rates for both groups were unusually high, this outcome may not have yielded a useful criticism. Nonetheless, for this comparison the institution followed only about half of the possible remediated students into a single follow-up course. In the future the college should carefully adhere to the Council's guidelines (e.g., on selecting up to three follow-up courses) in order to ensure the tracking of a greater proportion of the students.

On the GPA indicator, there was a 17 percentage-point difference in percent cumulative GPA of "C" or greater between remediated students (77%) and non-remedial students (94%), which missed the standard by two percentage points. Again, this reflected a relative decline in performance since the 1985(-87) and 1986(-88) submissions. On retention, the remediated students returned in the fourth semester at a 90% rate, compared to 89% for the non-remedial comparison group; the difference met the standard. However, the SSR standard was not met in any of the comparisons over the last three years and the trend appeared to be a downward one. In 1987(-89), remediated and non-remedial students posted SSR's of 69% and 83% respectively, a difference of 14 percentage points. In 1986(-88) the difference was 11 percentage points and in 1985(-87) it was 7 percentage points.

In summary, the pattern of results for the reading area was mixed, with favorable retest and retention results. The apparent downward trends on GPA and SSR indicators raised many questions and concerns. Results in the first (subsequent) college-level course were difficult to interpret for the reasons stated above.

Writing

Placement Criteria. In 1987, placement in remedial writing was accomplished using an NJCBSPT-Essay cut-score of 7, which met the standard. This resulted in 16% of the full-time and none (of 5) part-time students being identified for writing remediation. In 1986 the cutoff used was Essay 8, by which 15% of the full-time and 40% of the part-time test-takers were identified for remedial instruction.

Remedial Program Outcomes. Ninety-four percent of the full-time students who enrolled in writing remediation successfully completed it by the end of four semesters. Of the successful completers, 92% attained the college's minimum level on the retest (Essay 8) or scored within an SEM of it, which met the standard.

Subsequent Academic Performance. In the subsequent college-level English composition course, 91% of the remediated students passed, compared to 98% of the non-remedial comparison group; the difference missed the standard by two percentage points. Since both passing rates were unusually high, however, this outcome may not have yielded a fruitful criticism. Interpreting the result was also confounded by the fact that only 90 (out of perhaps 153) remediated students were followed into the English composition course.

There was an 11 percentage-point difference in GPA performance (i.e., percentages attaining a cumulative GPA of "C" or greater) between the remediated students (82%) and those who were not identified for remediation (93%), which met the standard. A slightly higher percentage of remediation completers (90%) returned in the fourth semester than did non-remedial students (89%), which met the standard and reflected an improvement over results from the previous two cohorts. However, the SSR's were 74% for remediated students and 83% for the non-remedial students, a difference of nine percentage points which did not meet the standard. Moreover, the SSR standard was missed in the two preceding years.

In conclusion, the writing program exhibited mixed signs of effectiveness.

Computation

Placement Criteria. Trenton State used an NJCBSPT-MC score of 171 (6 scaled-score points above the standard) to place students into computation. As a result, 15% of the full-time and 40% of the part-time students (2 out of 5 part-time students) were identified for remediation in this skill area.

Remedial Program Outcomes. Eighty-six percent of the full-time students and all (both) part-time students who enrolled in computation successfully completed remediation by the end of four semesters. On the retest, presumably 100% of the students who satisfied all remedial requirements (and were retested) attained the college's minimum cut-score. However, since "completion" and "passing" designations were reconstructed by the college on the basis of whether NJCBSPT-MC retest scores had been recorded, there was much uncertainty surrounding this and the other outcomes discussed below.

Subsequent Academic Performance. Students reportedly completing computation remediation passed their subsequent college-level mathematics course at a lower rate (88%) than non-remedial students (95%); the seven percentage-point difference missed the standard by two percentage points. It should be kept in mind that the non-remedial comparison group passed this course at an unusually high rate. Further, the follow-up of only 16 remediated students (out of perhaps 123 possible students) and the questionable assumptions used to reconstruct the data made this result nearly impossible to interpret. While the standard was not met in the three preceding years, it should also be remembered that computation completers were required to demonstrate proficiency in elementary algebra.

In 1987(-89), there was an eight percentage-point difference in percent GPA at or above "C" between those completing computation and those not needing it (85% and 93% respectively); the difference met the standard. The retention rate was similar for the two student groups (89%), which met the standard. Finally, the students who completed remediation posted an SSR of 76%, compared to 83% for the non-remedial comparison group (a 7 percentage-point difference), which met the standard.

In summary, Trenton State's computation program exhibited many possible signs of effectiveness. However, the questionable assumptions used to reconstruct the data clouded interpretation of the results.

Elementary Algebra

Placement Criteria. An NJCBSPT-EA cutoff score of 176 (which met the minimum standard and was 9 scaled-score points above it) was used to place students into elementary algebra. This resulted in the identification of 24% of the full-time and 60% (3 of 5) of the part-time test-takers. All students were required to demonstrate proficiency in elementary algebra, irrespective of major.

Remedial Program Outcomes. Eighty-four percent of the full-time students and 67% (or 2) of the part-time students who enrolled in elementary algebra successfully satisfied their remedial requirements by the fourth semester. Ninety-eight percent of these students (i.e., those who completed remediation) attained the college's minimum score on the retest or scored within an SEM of it, which met the standard.

Subsequent Academic Performance. In 1987(-89) Trenton State's algebra program fell one percentage-point short of the standard on first (subsequent) college-level course passing rates. Remediated students passed the follow-up course at the rate of 91%, compared to 97% for the non-remedial students. However, since both passing rates were unusually high, this outcome may not have yielded a useful criticism.

All other student outcome standards were met in 1987(-89), and with only minor exception this general pattern was evident in the two preceding years. For the 1987 cohort, remediated students attained "C" or better GPA's at the rate of 88%, compared to 94% for the non-remedial students (a difference of only 6 percentage points). Those completing elementary algebra returned in the fourth semester at the rate of 93%, compared to 89% for the non-remedial comparison group. Similarly, the SSR's for the two student groups were nearly the same (82% and 83% respectively).

In summary, Trenton State's elementary algebra program exhibited a nearly uniform set of positive outcomes, attesting to the strength of the program.

Overview

Strengths

Trenton State has a commendable record of testing nearly 100% of its entering students over several consecutive years. Similarly, the college succeeded in enrolling within two semesters over 90% of its identified students in the required remedial courses in all skill areas.

The college administered retests to virtually all students who completed its remedial writing and algebra courses. Retest results across the four areas were high for the remedial completers reported on.

Apart from the difficulty in interpreting the first (subsequent) college-level course performance, the elementary algebra program appeared strong on the basis of a uniformly positive set of outcomes.

Areas of Concern

The institution needs to boost its retest "capture" rate in reading to the required 95% minimum level.

This institution's data base did not carry course grades for computation; instead, for purposes of this study remedial course "completion" and "passing" designations were reconstructed on the basis of whether NJCBSPT-MC retest scores had been recorded. Thus several questionable assumptions were made in the compilation and reporting of all follow-up data for computation, and this shortcoming made it nearly impossible to gauge the effectiveness of the program. Whether the problem has since been corrected could not be confirmed, on account of the institution being behind in its submission of 1988(-90) data.

Interpreting results on the first (subsequent) college-level course indicator for all skill areas was confounded by the relatively small follow-up sample sizes reported on. In view of the fact that all programs missed this standard (albeit in part due to the extraordinary performance of the non-remedial students), it would be to the institution's advantage to follow as many remedial students as possible into their subsequent courses.

Although the reading program presented a mixed pattern of results, the disturbing downward trends on GPA and SSR gave cause for concern and merit a close look by the institution.

WILLIAM PATERSON COLLEGE OF NEW JERSEY

Policy Administration

In 1987 William Paterson College tested approximately 100% of its full- and part-time entering students, which met the Board's testing requirements. According to the college, however, the 100% rates as reported were partly the product of data revisions made in an attempt to remedy past practices that contributed to inaccurate basic skills questionnaires. Nonetheless, the college has a commendable history of high placement testing rates for its entering students. On-going changes in the administration of William Paterson's basic skills programs and in data-collection practices have already resulted in improved reports to the Basic Skills Council and Department of Higher Education.

Of the full-time, identified students in each area, the institution enrolled in remediation within two semesters 96% in reading, 98% in writing, 95% in computation and 96% in elementary algebra; each of the rates met the Board's two-semester enrollment expectation. Similarly, the percentages of identified students present in the fourth semester but not yet enrolled in remediation ranged from a maximum of 5% in reading to 2% in elementary algebra. Hence, the four-semester enrollment standard was achieved in each of the four remedial areas.

The college succeeded in retesting 100% of the students across the four skill areas who satisfied all remedial requirements through course work, which met the standard.

Remedial Areas

Reading

Placement Criteria. In 1987, William Paterson used the following criteria to place students into two levels of remediation: an NJCBSPT-RC score of 166 (which met the standard and was five scaled-score points above it), an SAT-V score of 400 and an in-class validation using the Nelson-Denny test (fourth stanine). These criteria represent changes from those reported for 1985, when a RC score of 162 was used with a Nelson-Denny raw score of 87. Details were lacking about the validation testing and its specific role in placement decisions.

Of those tested in 1987, 36% of the full-time and 48% of the part-time students were identified for remedial reading. These identification rates represent a steady increase in the numbers of full-time students requiring reading remediation (cf. 24.7% and 32.5% in 1985 and 1986 respectively) but little change in the proportion of part-timers so identified.

Remedial Program Outcomes. Of the students who began remedial reading, 94% of the full-time and 85% of the part-time students successfully satisfied their remedial requirements within four semesters. Ninety-eight percent of the students who satisfied their requirements through course work attained the college's minimum on the retest (NJCBSPT-RC score of 168) or fell within one SEM of it, which met the standard. Curiously, the institution reported using an NJCBSPT-RC score of only 165 as an exit criterion, which is seemingly inconsistent with the retest minimum used.

Subsequent Academic Performance. The passing rate for remediated students in the first (subsequent) college-level course was 92%, compared to 93% for the non-remedial students; the difference met the standard. (Note, however, that the 655 "non-remedial" students reportedly used in this comparison exceeded the total of 625 "no-need" students given elsewhere in the institution's report; this discrepancy raised questions about the meaningfulness of the comparison.) Seventy-one percent of the remediated students had cumulative GPA's of "C" or above, as compared to 82% of the non-remedial students; this 11 percentage-point difference met the standard.

Remediated students returned in the fourth semester at the rate of 72%, compared to 81% for the non-remedial students; the difference did not meet the standard. Remediated and non-remedial student groups had SSR's of 51% and 66% respectively, which also did not meet the standard.

In summary, the reading program presented a mixed picture of success. The imperfect accounts of placement and exit criteria, plus occasional discrepancies in the reported data, added to the difficulty of evaluating the program.

Writing

Placement Criteria. For placement into remedial writing, the institution first reviewed a student's NJCBSPT-Essay (ES) score. If ES was less than 7, then the student was placed into a remedial writing course. Similarly, if ES was equal to 7 and the NJCBSPT-SS score less than 163, then the student also was placed into remedial writing. These criteria met the standards. Placements were confirmed using an in-class validation essay. In this manner, 35% of the full-time and 47% of the part-time students tested were identified for remedial writing.

Remedial Program Outcomes. Of the students who enrolled in remediation, 98% of the full-time and 83% of the part-time students satisfied all remedial requirements within four semesters. One hundred percent of the remediated students for whom retest score distribution data were available (see below) attained the college's minimum score or fell within one SEM of it, which met the standard. Although score distribution data were available for only a fraction (i.e., 81%) of the students retested, other data submitted by the college argued in favor of the sample's representativeness.

Subsequent Academic Performance. Ninety-four percent of the remediated students and 97% of the non-remedial students passed the first (subsequent) college-level course, which met the standard. Remediated students as a group had GPA's at or above "C" at a rate of 61%, compared to 84% of the non-remedial students. This difference of 23 percentage points missed the standard. Furthermore, the college acknowledged that this wide difference in GPA performance between the two student groups "seems anomalous...[and] is subject for further analysis."

Remediated students returned in the fourth semester at a rate of 80% compared to 79% for the non-remedial students, which met the standard. Successful survival rates for the two student groups were 49% and 67% respectively; the 18-percentage-point difference did not meet the standard.

In summary, outcomes for the writing program were mixed, with below-standard performance on the GPA and SSR indicators detracting from the otherwise positive results.

Computation

Placement Criteria. William Paterson used an NJCBSPT-MC score of 168 (which met the standard and was above it by three scaled-score points), with an NJCBSPT-EA score of 177, to place students into its remedial computation course. However, students in math-related majors who scored 162-167 on NJCBSPT-MC were placed directly into elementary algebra. Using these criteria, 28% of the full-time and 53% of the part-time test-takers were identified for computation.

Remedial Program Outcomes. Of the full-time students enrolled in the program, 90% satisfied all requirements for remedial computation within four semesters. Similarly, 81% of part-time students completed remediation within the same period. One hundred percent of the students who completed the program attained the college's minimum score on the retest (NJCBSPT-MC 169) or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. Remediated students passed the first (subsequent) college-level course at the rate of 88%, compared to 92% for non-remedial students; the difference met the standard. Just under 65% of the students who completed remediation produced cumulative GPA's at or above "C," compared to 80.3% for the non-remedial comparison group; the difference missed the standard by 0.6 percentage point.

The comparison of retention rates for remediated students (84%) versus the non-remedial students (77%) met the standard. Successful survival rates for the two student groups were 54% and 62% respectively; the difference missed the standard by one percentage point.

In essence, results for computation were mixed, with below-standard performance on the GPA and SSR indicators (albeit by a slim margin) detracting from the otherwise positive outcomes.

Elementary Algebra

Placement Criteria. In 1987, the institution required remedial algebra only for its math-related majors. An NJCBSPT-EA score of 177 (with an NJCBSPT-MC score ≥ 168) served as the placement criterion, which met the standard and was above it by ten scaled-score points. Of the students tested, 25% of the full-timers and 43% of the part-timers were identified for remedial algebra. The college reported that students with undeclared majors were defined as "needing remediation," although they were not necessarily required to take elementary algebra until after choosing a major.

Over the years, the percentages of students identified for remedial algebra have shifted with fluctuations in the cutoff score used for placement. In 1990 the institution's board of trustees passed a resolution requiring elementary algebra proficiency of all students, irrespective of program.

Remedial Program Outcomes. Of the students who began the program, 82% of the full-time students and 74% of the part-time students satisfactorily completed their remedial algebra requirements within four semesters. (Note that 20% of the part-time students satisfied their requirements through means other than course work.) One hundred percent of the students who satisfied their elementary algebra requirements via course work attained the college's minimum score on the retest or fell within one SEM of it, which met the standard.

Subsequent Academic Performance. Eighty-eight percent of the remediated students passed their first college-level course taken subsequent to remediation, compared to 87% of the non-remedial students; the difference met the standard. Remediation-completed students produced cumulative GPA's at or above "C" at an 80% rate, compared to 75% for the non-remedial comparison group; the difference met the standard and was a reversal of the typical pattern.

Retention rates for the remediated and non-remedial student groups respectively were 82% and 78%, which met the standard. Similarly, the SSR's were 66% for the remediated students and 58% for the non-remedial comparison group, which met the standard and was a reversal of the typical pattern.

As in past review cycles, the 1987-89 outcomes for the remedial algebra program were uniformly positive.

Overview

Strengths

The college is to be commended for its consistently high rates of placement testing and retesting across all remedial areas. Indeed, William Paterson College satisfied each and every "Policy Administration" standard for the 1987(-89) review cycle.

The college consistently enrolled over 90% of its full-time students in remediation (all areas) during the first two semesters, a pattern which has continued from 1985(-87) through the present report.

In every skill area, retest results and passing rates in the first (subsequent) college-level courses were favorable. For writing and computation areas, the first college-level course performance represents improvement from the previous review cycle.

Outcomes in the elementary algebra area were uniformly positive, and therefore strongly indicative of a successful remedial effort for the students placed into the program. An identical pattern of success was also noted in the previous review cycle. To this the college responded candidly:

> "While we are pleased at the higher profile in algebra, we have to acknowledge that this is due in part to the fact that students self-select this course in their choice of major. In fact, it is probable that the weakest students are not ever required to take algebra. This is further compounded by the fact that algebra is taken after a student meets the first level of remedial requirement, College Arithmetic...."

In writing, computation and elementary algebra areas, retention rates for the remediation-completed students exceeded those for the respective non-remedial comparison groups.

William Paterson College is actively pursuing ways to strengthen its own remedial programs. For example, the institution reports that it is undergoing changes in the administration of the programs, registration procedures and in the manner in which data are collected, maintained and reported. In-house, comprehensive reviews of remedial courses are under way. Recently the college instituted an "algebra-as-a-basic-skill" policy for all students. Further, the college has reactivated its campus basic skills council. In the words of the institution's president, "These [examples] represent only the beginning of our efforts to revitalize the program."

Areas of Concern

Completers of reading remediation did not compare favorably with their non-remedial counterparts with respect to retention and successful survival.

In writing and computation areas, the relative results on GPA and SSR indicators suggested the need for improvement (although in computation both standards were missed by a narrow margin).

Although the accuracy and overall usefulness of reports to the Basic Skills Council and Department of Higher Education are much improved, the few remaining discrepancies added to the difficulty of interpreting particular elements.

Suggestions For Further Inquiry

Questions about placement and exit criteria for reading surfaced in the course of this review. The college might examine its seemingly heavy reliance on the SAT-V for reading placement. In the future, details should be furnished on the specific role of "validation testing" in reading placement.

In writing, the seemingly "anomalous" wide difference in GPA performance between the two student groups merits investigation.

NEW JERSEY INSTITUTE OF TECHNOLOGY

Policy Administration

In 1987, New Jersey Institute of Technology (NJIT) tested over 99% of its full-time students requiring testing, which met the Board's minimum expectation. There were no part-time students requiring testing. Further, the institution succeeded in testing nearly 100% of the required students for at least five consecutive years.

Similarly, the college has consistently enrolled over 90% of its identified students in the necessary remedial courses (all skill areas) within two semesters, thus meeting the standard. For example, the 1987(-88) two-semester enrollment rates were 100% for both remedial English and elementary algebra. Consequently, there were no students present in the fourth semester who had yet begun the required remediation, which met the standard.

In the writing and elementary algebra areas, no retesting data were furnished by the institution, contrary to Board of Higher Education requirements and reporting guidelines of the Basic Skills Council. Retest data based on the NJCBSPT-RC were provided for 49 students who were placed into English 098 and who successfully completed the two-semester English sequence; this amounted to a retest "capture" rate (in reading) of 88%, which missed the standard by seven percentage points.

The students who successfully completed the remedial algebra course (Math 102, three students in 1987-89) were awarded graduation credits, in apparent violation of Board policy. The practice of awarding graduation credits for elementary algebra was discontinued in 1989-90.

Remedial Areas

Reading

Since 1984, reading and writing instruction have been integrated into a single two-semester sequence at NJIT. All students identified for reading were placed into English 098, a course that emphasized reading but included some remedial writing instruction, and then were required to enroll in and complete the upper-level remedial English 099 course. The emphasis in English 099 was on writing. The students who needed writing (but not reading) were placed directly into English 099. In the institution's own words:

> "Students are considered to have successfully completed reading remediation when they successfully complete the Eng 098-Eng 099 sequence. These same students are considered to have successfully completed writing remediation upon successful completion of Eng 099."

Because reading instruction was embedded in a sequence whose final level for all identified students was a remedial writing course (see "Writing" below), outcomes for the reading component could not be viewed in isolation.

Placement Criteria. Students were identified for reading (and also required to take remedial writing) if they fell below all of the following criteria: NJCBSPT-RC 165 (which met the standard and was above it by five scaled-score points), Essay 7, Composition 165, SAT-RC subscore 40, SAT-V 400, and TSWE 40. That all six criteria had to be missed for placement into English 098 raised questions about the adequacy of the algorithm. In 1987, 15% of the full-time test-takers were identified for English 098. (There were no part-time students.) Data for these students are included below under "Writing."

Writing

Placement Criteria. Students were identified for remediation if they did not meet all of the following criteria: NJCBSPT-RC 165, Essay 7 (which met the standard), Composition 165 (which met the standard and was above it by two scaled-score points), SAT-RC subscore 40, SAT-V 400, and TSWE 40. That "all" six criteria had to be missed for remedial placement raised questions about the adequacy of the algorithm. The remedial writing course (English 099) also constituted the upper-level course in sequence for the students who were identified for reading. Students with NJCBSPT-RC $\geq$ 165 and SAT-RC subscore $\geq$ 40 but who missed the other criteria were placed directly into English 099. In 1987, a total of 128 students or 28% were identified for English 099 (including the 68 students initially placed in English 098).

Remedial Program Outcomes. Of the full-time, identified students enrolled in English 099, 88% had successfully completed the remedial course by the fourth semester. No 1987(-89) retest data were reported for writing, contrary to Board of Higher Education requirements and reporting guidelines of the Basic Skills Council. [Such retest data were submitted for the 1988(-90) cohort, and preliminary analysis revealed that only 74% of the students who successfully satisfied all remedial writing requirements by Spring 1990 attained the college's minimum retest score (Composition 165) or fell within an SEM of it, which would miss the standard by a wide margin.]

Retest data using the NJCBSPT-RC were provided for 49 students who were placed into English 098 and who successfully satisfied all requirements for the English 098-099 sequence. Of these students, only 67% attained the college's minimum score on the retest (NJCBSPT-RC 160, five scaled-score points below the college's placement cut-score) or scored within an SEM of it, which missed the standard by a wide margin. [Had the institution used a retest cutoff score of -RC 165, this result would have dropped even further, to 45%.] This suggested that students identified for reading and placed into NJIT's English sequence were not receiving the necessary reading skills.

Subsequent Academic Performance. Ninety percent of the students who successfully completed English 099 passed their first (subsequent) college-level English composition course, as compared to 93% of the non-remedial comparison group. The difference not only met the standard but also reflected improvement since the previous cycle of review. It should be noted that both passing rates were high. In addition, there was no difference between the two groups in the percentage of students with cumulative GPA's of "C" or better (79%), which met the standard.

Completers of remediation returned in the fourth semester at a rate of 79%, compared to 81% for the non-remedial students, which missed the standard by two percentage points. However, the retention rates were high for both groups of students. The SSR for the remediation-completed students was 63%, compared to 64% for the non-remedial students; the one percentage-point differential met the standard and reflected improvement over prior years.

In summary, the high passing rates in the first (subsequent) college-level course, as well as favorable GPA and SSR comparisons, were positive indications for NJIT's remedial English sequence. The retention rate for completers of remediation, although high, did not meet the relative standard. The absence of retest data for writing added to the difficulty of interpreting the 1987(-89) outcomes. The available NJCBSPT-RC retest data, however, suggested that the sequence was not meeting the needs of students with reading deficiencies.

Computation

NJIT did not offer a course in computation; such proficiency, as evidenced by high school background and SAT-M scores, was required for admission to the institution.

Elementary Algebra

Because of the technical nature of its programs, few admitted students were deficient in elementary algebra. The college offered a variety of developmental pre-calculus courses which dealt with advanced algebra topics up through pre-calculus and trigonometry. Mathematics proficiency through Calculus I was required of all NJIT students.

Beginning with the Fall 1986 cohort, "Math 102 -- Mathematical Concepts" was the only remedial mathematics course offered by the institution (and thus reviewed by the committee). This elementary algebra course was "designed to assist students in the development of the required mathematical modeling skills" and fell outside of the typical progression of freshman mathematics courses at NJIT. The small number of students who completed Math 102 were awarded graduation credits, in apparent violation of Board policy; however, this practice was discontinued in 1989-90.

Placement Criteria. Students were identified for elementary algebra remediation if they missed all of the following criteria: NJCBSPT-EA 166 (which missed the minimum standard by one scaled-score point), -MC 166, SAT-M 400 and local math/physics placement test score 10 (out of 36). An additional factor considered was the evaluation of an Educational Opportunity Program summer instructor. In 1986 and 1987, 10 (2%) and 7 (1%) full-time students respectively were identified for remedial algebra.

Remedial Program Outcomes. Of the 9 full-time students who began Math 102 in 1986, 90% successfully completed the remedial course in four semesters. In 1987, three (43%) of the enrollees successfully completed the remedial course by the fourth semester.

According to the institution, "in academic year 1987-88...post-testing of mathematics remedial students was begun." However, no 1987(-89) retest data were provided by the institution, contrary to Board of Higher Education requirements and reporting guidelines of the Basic Skills Council.

Subsequent Academic Performance. Only one remediated student each was followed into the first (subsequent) college-level course in 1986(-88) and 1987(-89), and neither of these students successfully passed the follow-up course. One hundred percent of the remediated students in the 1987(-89) cohort (n=3) achieved a cumulative GPA at or above "C"; this compared favorably with the 79% reported for the non-remedial students. Similarly, 100% of the remediated students (n=3) returned in the fourth semester (79% for non-remedial students), and the SSR for the three remedial completers was 100% (compared to 62% for non-remedial students).

Because of the small number of identified students in 1987 (n=7) and the absence of retest data, student outcomes for the elementary algebra program could not be interpreted.

Overview

Strengths

NJIT is to be commended for its consistently high rates of placement testing for its students and for its timely enrollment of identified students in the necessary remedial courses, a pattern which has held over five consecutive years.

The high passing rates in the first (subsequent) college-level course (and their improvement over time), as well as the favorable GPA and SSR comparisons, were positive indications for NJIT's remedial English sequence. In addition, the retention rate for completers of the sequence, even though falling below the relative standard, was high. Unfortunately, these positive signs were difficult to interpret on account of the missing retest data for writing.

Areas of Concern

In 1987(-89), no retest data were reported for the writing or elementary algebra areas, contrary to requirements of the Board of Higher Education and Basic Skills Council. [Retest data for writing were reported for 1988-90.] This added to the difficulty of reviewing the programs.

The institution should rethink its underlying assumptions regarding placement, delivery of instruction and exit in/from reading. For example, NJIT's report stated that "Students are considered to have successfully completed reading remediation when they successfully complete the Eng 098-Eng 099 sequence." Yet information on exit criteria (page 9 of NJIT's report) seemed discrepant with this argument. The mismatch between placement and retest criteria (i.e., a discrepancy of 5 scaled-score points on the NJCBSPT-RC) raised additional questions about the exit standards. Further, the weak NJCBSPT-RC retest results suggested that the integrated approach was not providing the students with the necessary reading skills.

Graduation credits were awarded for Math 102, in apparent violation of Board policy. It should be noted, however, that this practice was discontinued in 1989-90.

Suggestions For Further Inquiry

In the course of the review information surfaced about the institution's possible use of the NJCBSPT for ESL placement (contrary to recommendations of the Basic Skills Council). Were non-English-speaking students identified for remediation due to language difficulties? The committee requested clarification on this point.

Questions were also raised about the multiple placement and exit criteria in each of the areas, and especially about their apparent "all or none" application (or else endless possible combinations). In the future, details should be furnished on the specific role of each criterion in placement and exit decisions.

RUTGERS, THE STATE UNIVERSITY - CAMDEN

Policy Administration

In 1987, Rutgers-Camden tested 100% of both full-time and part-time students, which met the 90% standard. The institution also met the standard for the 1985 and 1986 full-time cohorts but missed in the part-time group in 1986 (83%).

Of the full-time students identified for remediation, Rutgers-Camden succeeded in enrolling within two semesters 89% in reading, 93% in writing and 100% in computation and algebra. Only the reading skill area did not meet the standard (by a single percentage point). Because Rutgers-Camden integrates computation into the algebra instruction, from this point the math skill area will be designated algebra. According to the college's report, there has been a "concerted effort on the part of the Office of the Dean and Advisement Office to monitor the placement procedures to ensure a greater percentage of students requiring remedial work enrolled in the appropriate courses."

In 1987, the percentage of students present in the fourth semester who had not yet begun remediation met the standard in all three areas.

The percentage of students who completed remediation and were then retested did not meet the standard of 95%. In reading, 56% took the NJCBSPT retest; in writing, 43%; and in algebra, 72%.

Remedial Areas

Reading

Placement Criteria. All students scoring below 168 on the NJCBSPT-RC were placed in a remedial reading course. This criterion, which met the standard and was seven points above it, resulted in 19% of full-time and 57% of part-time students (n=17) being identified for reading remediation.

Remedial Program Outcomes. Of the full-time students enrolled in remedial reading, 98% successfully satisfied all remedial requirements by the end of Spring 1989.

Of the 63 students who completed remediation via coursework, 35 (56%) took the retest and 20 (57%) attained the college's minimum on the retest, which did not meet the standard. Moreover, the college did not supply data for the retest distribution. Therefore the number of students within one SEM of the cut score could not be determined. In the absence of the retest distribution, the results are inconclusive.

Subsequent Academic Performance. Students who completed reading remediation at Rutgers-Camden performed better than their non-remedial counterparts in the first (subsequent) college-level courses (91% and 89% respectively), which met the standard.

The remediated students' GPA performance met the standard of no more than 15 points difference from the non-remedial group with 76% of the remediated students and 88% of the non-remedial students attaining GPA's of 2.0 or better.

Those not needing remediation had a 72% retention rate in the fourth semester while those completing remediation had a 70% rate. This difference did not meet the standard by 2 percentage points.

The standard for successful survival rate (SSR) was not met in 1987; however, it was met in 1985 and 1986. Those not needing remediation in 1987 had a 64% SSR while those completing remediation had a 54% SSR (10 point difference).

In summary, the placement criteria, passing rate of subsequent college-level course, and GPA at or above 2.0 all met the standard. A concern is the uncertain data for retesting which makes it difficult to interpret fully the program's effectiveness. Another concern is that the retention rate for those completing reading remediation dropped from 84% in the 1985 cohort to 72% in 1986 to 70% in 1987.

Writing

Placement Criteria. Placement in writing at Rutgers-Camden was reported by the college as "One score below 165 or two scores below 168 on Sentence Sense and Reading Comprehension requires remediation." The criteria met the standard and resulted in 26% of full-time and 63% of part-time students being identified for writing remediation.

Remedial Program Outcomes. Rutgers-Camden reported that 100% of the students enrolled in writing remediation completed it successfully. Of the 87 students who successfully completed writing, there is aggregate retest data for 53 (58%) students, but scores for only 39 (45%) were available. Of this number 77% attained the college's minimum on the retest (sentence sense) or were within one SEM of it, which did not meet the standard.

Subsequent Academic Performance. Remediated students (n=34) passed their first (subsequent) college-level course, English Composition, at the rate of 94%, compared to 93% for the non-remedial students; this difference met the standard.

Students who completed remediation were nine percentage points behind their non-remedial counterparts in the percent cumulative GPA's at or above 2.0 (79% and 88%, respectively), which met the standard.

However, completers of remediation returned in the fourth semester at a lower rate than the non-remedial students (64% vs. 74%). This 10 point difference did not meet the standard which is no expected difference between the groups.

The 14 percentage point difference in the SSR also did not meet the standard of no more than seven points difference. The SSR of the completers was 51% versus 65% for the non-remedial comparison group.

In summary, Rutgers-Camden met the standards in placement, success in a subsequent course, and percentage attaining a GPA of 2.0 or better. The retesting information is sparse, and what there is indicates an area of concern for the college to examine. Two other concerns were that standards were not met in the retention rate and successful survival rate indicators.

Computation (Included in Algebra program)

Elementary Algebra

Placement Criteria. Students who scored below 165 in Math Computation or below 168 in Elementary Algebra on the NJCBSPT were placed in a remedial math course. During the first week of classes, the students were given a departmental test to confirm placement. The placement criteria met the standard and resulted in identification of 10% (n=35) of full-time and 37% (n=11) of part-time students for remediation.

Remedial Program Outcomes. The college reported that 74% of full-time and 86% of part-time students (n=6) completed algebra remediation via coursework. Of the 26 full-time students who successfully completed algebra, 23 retest scores were available. Of these scores, 100% attained the college's minimum or were within one SEM of it, which met the retest standard.

Subsequent Academic Performance. The passing rate in the first college-level math course for remediated students (n=18) was 67%, nine percentage points below the passing rate for non-remedial students in the same courses (76%); the difference did not meet the standard of no more than five points difference.

On the other hand, the remedial completers were within the 15 point difference allowed for percent of students attaining a GPA of 2.0 or better (non-remedial, 87% vs completers, 82%).

The retention rate for the two groups (non-remedial, 73%; completers, 65%) differed by eight percentage points, which did not meet the standard.

The final indicator, SSR, also was not met as the completers had a rate of 54% compared to 64% for the non-remedial group.

In summary, the placement, retest and GPA data met the standards; however, none of the other program outcome indicators met the standard. This pattern of mixed results should be viewed with caution, as the numbers of completers are very small and shifts of a few students can create quite a different pattern in percentage-based indicators. In the previous (1986) cohort, for example, the subsequent course standard was met but the retention, GPA and SSR indicators were not and no retest data were available.

Overview

Strengths

Rutgers-Camden was successful in the testing of both full-time and part-time students, and has made a concerted effort in placement which has greatly improved over the past few years.

Areas of Concern

Rutgers-Camden retested only 56% of the students who passed reading and 58% who passed writing. Score distributions were not available for that number, making interpretation of retest data difficult.

The standard for retention rates and successful survival rates was not met across the three skill areas.

RUTGERS UNIVERSITY, NEWARK

Policy Administration

In fall 1987 Rutgers-Newark tested 88% of its full-time entering students and 78% of its part-time students in reading and writing; identical percentages were tested in math computation and algebra. None of these four figures met the standard. The 1987 reported results represent an improvement over 1986 for part-time students, but a decline from 1985 for both full-time and part-time students.

The narrative portion of the college's 1987 effectiveness report notes a technical problem that might have affected the reported results: "As these figures indicated problems in the administration of the Rutgers-Newark placement programs, Newark conducted a complete investigation. It was found that students were indeed tested; yet these scores were not properly entered into the database prior to report preparation. To rectify this problem, Rutgers-Newark has implemented an automated system which automatically enters scores into the database."

Ninety-four percent of the full-time students who had been identified for remediation in reading and writing had enrolled in an appropriate remedial course by the fourth semester, while 92% identified for remediation in computation and/or algebra had enrolled. Both figures met the 90% standard. The enrollment percentages for the 1987 cohort were similar to those of 1986 and 1985.

Of the full-time students in the fall 1987 cohort who had been identified for remediation in reading and writing and were present in spring 1989, only 1% had not yet enrolled in an appropriate remedial course; the figure for computation and algebra is also 1%. Both figures easily met the 5% standard. There has been fairly steady improvement in this area over the last three cohorts.

Sixty-eight percent of those students who successfully completed remediation in reading and writing were retested; the figure for computation and algebra was 44%. Both figures fell well below the expected standard of 90%.

Remedial Areas

Reading and Writing

Placement criteria. At Rutgers-Newark remediation in reading and writing are combined. The college did provide some description and explanation of their placement procedures and policies in the area of reading and writing. According to the 1987 effectiveness report, "placement in developmental courses is based primarily on a reading of the essay section of the NJCBSPT by the English Department faculty, as well as the student's score on the verbal SAT, the TSWE, the sentence sense portion of the NJCBSPT, and the high school rank." In terms of placement the only cutoff score given is for University College (evening) students, and is expressed in raw form -- the Sentence Sense score must be equal to or greater than 24. This raw score translates into a scaled score of 163, which meets the standard. Because the relationship between raw and scaled scores can change from form to form, it would be preferable to report the scaled score directly, and to extend the use of NJCBSPT-SS cutoff scores beyond UC.

No explanation of how the scores were combined was given. The placement process in Newark resulted in 19% of the full-time entering students and 31% of the part-time students being identified for remediation; there has been a gradual increase in the proportions identified over the last three cohorts.

Remedial Program Outcomes. One hundred percent of both the full-time and part-time students who were enrolled in remediation in reading and writing had successfully satisfied all remedial requirements by the end of the fourth semester. Course work was the only means used. These results represent a significant improvement over those for the 1986 cohort, though the number of part-time students in that cohort was very small.

The NJCBSPT-Sentence Sense was apparently used exclusively as the retest. However, no minimum required score on the retest was given in the effectiveness report; therefore the retest results are difficult to interpret. Applying the college's placement standard cut score of 163 to the SS retest score distributions supplied by the college yields a figure of 38% for students reaching the retest minimum or scoring within one SEM, which is far below the 90% standard.

Subsequent Academic Performance. Eighty-three percent of the full-time remedial completers in reading and writing passed their first (subsequent) college-level course in the skill area, as compared to 94% of the non-remedial students. This differential of 11 percentage points did not meet the standard. The standard was also not met in the 1986 and 1985 cohorts.

Sixty-six percent of the full-time remedial completers had a fourth-semester cumulative GPA of 2.0 or greater, as compared to 87% of the non-remedial students. This differential of 21 percentage points did not meet the standard. The standard was also not met in the 1986 cohort, but was attained in the 1985 cohort.

The fourth-semester retention rate for the full-time remedial completers was 69%, as compared with 83% for the non-remedial students. This differential of 14 percentage points did not meet the standard. The 1986 and 1985 cohorts also did not meet the standard, but they came considerably closer.

The successful survival rate for the full-time students who completed remediation was 45%, as compared with 73% for the non-remedial students. This differential of 28 percentage points did not meet the standard. The standard was not met in the 1986 and 1985 cohorts; in fact there has been a steady widening of the differential.

In summary, in the area of reading and writing both placement and retesting criteria were stated vaguely. In terms of program outcomes, program completion is optimal, but retest results are well below the standard. Most importantly, all the subsequent academic performance indicators failed to meet the standards. The current poor outcomes plus the noted deterioration over time suggest that this weak program is in need of immediate attention.

Computation[1]

The effectiveness report explains that "Rutgers-Newark offers no courses that can legitimately be described as 'first college-level courses that stress quantitative skills but for which elementary algebra is not required.' All Rutgers-Newark courses requiring quantitative skills assume proficiency through the level of intermediate algebra, at the very least. Most assume some college level mathematics as well."

Students requiring remediation in both math computation and elementary algebra must complete the former before proceeding with the latter.

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[1] *Rutgers University, Newark, is now in compliance concerning the question of offering graduation credit for developmental mathematics. See Appendix C.*

Algebra

Placement Criteria. Algebra remediation is required of all students who are deficient in that skill area, regardless of their intended major. In the effectiveness report the cut-scores for placement into remedial mathematics are stated in terms of raw scores -- more specifically, a minimum score of 21 on NJCBSPT-Math Computation and a minimum score of 15 on NJCBSPT-Elementary Algebra. These raw scores translate into scaled scores on the 1987 test form of 168 and 169, respectively, both of which meet the standard. It would be preferable for the program to use the scaled scores directly, since the meaning of raw scores may change across test forms.

Twenty percent of the full-time entering students and 54% of the part-time students were identified for remediation in mathematics. The full-time figure is similar to those for 1986 and 1985. The part-time figure is similar to that for 1986, but is much higher than that for 1985; the latter, however, was based on a very small number of students.

Remedial Program Outcomes. One hundred percent of both the full-time students and the part-time students who were enrolled in remediation in math computation and/or elementary algebra had successfully satisfied all remedial requirements by the end of the fourth semester. Course work was again the only means used. In the preceding cohort both results had also been 100%.

The minimum scores required on the computation and algebra retests -- NJCBSPT-MC and NJCBSPT-EA -- were 159 and 169, respectively. The former figure is nine points below the placement standard used by Rutgers-Newark, and six points below the BHE placement standard. Ninety-three percent of the retested students attained the minimum score on the MC retest (or were within one SEM), while 82% did so on the algebra retest. The former figure met the standard; the latter did not.

Subsequent Academic Performance. Sixty-seven percent of the full-time remedial completers in computation and/or algebra passed their first subsequent college-level course in the skill area, as compared to 78% of the non-remedial students. This differential of 11 percentage points did not meet the standard. The differential had been much larger in the 1986 cohort, while the standard had been met in the 1985 cohort.

Seventy-three percent of the full-time remedial completers had a fourth-semester cumulative GPA that was at or above 2.0, as compared to 85% of the non-remedial students. This differential of 12 percentage points met the standard. The standard had been met for the 1986 and 1985 cohorts as well.

The fourth-semester retention rate for the full-time remedial completers was 65%, as compared to 82% for the non-remedial students. This differential of 17 percentage points did not meet the standard. The standard had not been met in the 1986 cohort, but the 1985 cohort had attained the standard.

The successful survival rate for the full-time remedial completers was 47%, as compared to 69% for the non-remedial students. This differential of 22 percentage points did not meet the standard. The 1986 and 1985 cohorts also did not meet the standard; moreover the differential has consistently widened.

In sum, in the area of mathematics, program completion is once again optimal. In this instance retest results are mixed, but the retest standard for computation was inappropriate. Finally, in outcomes involving subsequent academic performance, only the GPA indicator met the standard. The overall weakness of the outcomes suggest that the program is in need of further review.

Overview

Strengths

Perhaps the greatest strength of the remedial program at Rutgers-Newark is the reported total (100%) success in getting students who are enrolled to complete the program within two years.

It is also encouraging that the concerns about testing and enrollment that were expressed by then-Chancellor Hollander in his May 17, 1989 letter to then-President Bloustein were addressed in the 1987 effectiveness report submitted by Rutgers-Newark.

Areas of Concern

Both in reading/writing and in mathematics the performance of remedial completers relative to that of non-remedial students rather consistently falls short of the relevant standards.

The second major area of concern is retesting. There are deficiencies with respect to the vagueness and appropriateness of standards, the extent of retesting, and the performance of those who are retested, at least in the area of reading and writing.

The narrative that accompanied the data in the report was often inadequate for the purpose of removing ambiguities about the program and making judgments on its effectiveness.

RUTGERS, THE STATE UNIVERSITY - NEW BRUNSWICK

Policy Administration

Changes in reporting methods and data bases over the three cohorts reviewed for this report make trend analysis of the program in general at Rutgers problematic, and thus, this report stresses outcomes for the 1987 cohort. However, in testing, it appears that Rutgers has consistently met the standard for testing its full-time students (100%) and has met the standard for its small number (n=55) of part-time students (98% tested) at least for the most recent, 1987 cohort.

Similarly, the two-semester enrollment rates (93%) for students identified for the combined remedial reading and writing program have consistently met the standard. On the other hand, two semester enrollment rates (60%) in the combined remedial computation and algebra program have not met the standard across all the cohorts. This shortcoming is due chiefly to the lack of a formal requirement for the completion of math remediation at Douglass and Rutgers College, which together constitute the majority of Rutgers University students. However, both colleges have recently adopted policies that would require math remediation for the Fall 1990 and future cohorts. Cook College and the Mason Gross School continue without such a policy; the remaining schools have always had one.

Moreover, the percentage of students enrolled in the fourth semester without having begun needed remediation does not meet the standard in either reading/writing (albeit by just a single percentage point at 6%) or in computation/algebra by a wide margin (39% vs. the standard of a maximum of 5%).

In retesting, results were reported for only approximately 60% of the 1987 cohort of students completing the reading and writing program while retest scores were reported for just half of those completing the computation and algebra program; both figures missed the 95% standard by a wide margin.

Remedial Areas

Reading and Writing

Placement Criteria. Except for University College, Rutgers employs a complicated algorithm that employs NJCBSPT scores as secondary indicators for remedial placement; SAT scores are the primary indicators. Thus, it is difficult to refer their criteria to the standards in a simple way. Students with verbal SAT scores of 470 and higher appear, for instance, to escape remediation regardless of their NJCBSPT scores, and those with scores as low as 400 may do so if their math SAT scores are 450 or higher. When NJCBSPT scores are used, however, they appear to be consistent with the standards set for Reading Comprehension and Sentence Sense; the Essay is not used at all in placement. On the other hand, University College, which employs the NJCBSPT Sentence Sense and Reading scores as its placement indicators, does not meet the standard (by one scaled score point) for the former but meets and exceeds it by nine scaled score points in the latter.

The percentages of students identified for remediation under the Rutgers algorithm are relatively small, i.e., 9% of the 1987 full-timers and 16% of the part-timers. Nonetheless, the placement rate represents a sizable number of students (418 of the 5,065 tested).

Remedial Program Outcomes. Ninety-four percent of the full-time students and one hundred percent of the part-time students from the 1987 cohort who enrolled in remediation completed it by the end of the cohort's second year. Although retest scores were reported for just 60% of the students completing remediation through course work, the results that were reported (94% met the college's minimum or were within one SEM of it) did meet the standard.

Subsequent Academic Performance. Completers of reading and writing remediation in the 1987 cohort did not subsequently perform very well at Rutgers. Only one of the outcome indicators in this area (subsequent college-level course performance, where 92% of remediation-completed students passed compared to 96% of the non-remedial students) met the standard.

Standards were not met in the GPA at or above 2.0 indicator (87% for non-remedial vs. 67% for completers of remediation), retention rates (87% vs. 84%, missed by three percentage points) or in successful survivor rate (76% vs. 56%).

In summary, while the important retest (on partial cohort) and subsequent college-level course passing standards were met, students who complete remediation at Rutgers exhibit lower GPA's and, to a lesser extent, retention rates than their non-remedial peers. In its narrative Rutgers suggests that this poor showing is attributable to the larger than average difference in academic ability between its non-remedial, regularly admitted students and its relatively few, usually specially admitted, remedial students.

Computation and Algebra

Placement Criteria. The remedial curriculum at Rutgers combines computation and algebra, but students are identified for math remediation by their scores on the Algebra portion of the NJCBSPT and on the Rutgers Math Placement Test scores, a test above the elementary algebra level developed by the University. The NJCBSPT cutoff score meets the standard. As in the reading and writing program, the remedial placement rate for the 1987 cohort was relatively low (only 7% for full-timers but 60% for part-time students), yet it nonetheless yielded a sizable remedial population of 326 full-time and 33 part-time students. Remedial placement at most of the University's colleges, however, was not mandatory for this cohort. (See "Policy Administration" above.)

Remedial Program Outcomes. Eighty-one percent of the full-time and 100% of the part-time students from the 1987 cohort who enrolled in remediation completed it by the end of the second cohort year. Although retest scores were reported for only half of the students who completed remediation through course work, 100% of those tested met the university's minimum or were within one SEM of it, which did meet the standard.

Subsequent Academic Performance. In the first (subsequent) college-level mathematics course completers of remediation passed at a rate of 80% compared to 86% for non-remedial students. The difference did not meet the standard by one percentage point. In terms of GPA's at or above a 2.0 the difference between the two groups (60% vs. 85%) missed the standard (of a difference no greater than 15 points) by a wide margin.

The retention rate for completers was 75% compared to 87% for non-remedial students, which also did not meet the standard of no expected difference. The composite indicator SSR also missed the standard by a wide margin (45% for completers vs. 74% for non-remedial students).

As in the remedial reading and writing program, completers of mathematics remediation from the 1987 cohort did not subsequently perform very well at Rutgers. None of the outcome indicators in this area met the standards. Again, Rutgers attributed this poor showing to the larger than average difference in academic ability between its non-remedial, regularly admitted students and its relatively few, usually specially admitted, remedial students. Here as well, the institution proposes that a special standard be established for Rutgers that would reflect this special case.

Overview

Strengths

Rutgers consistently meets the Board's mandate for testing its full-time students, and in 1987 it met the mandate for part-time students as well.

Rutgers reports that it has undertaken better coordination of its data sources and reporting methods across the University, and trend analysis of future cohorts ought to be possible.

While the placement criteria used by the University are difficult to summarize short of a computer algorithm, their nature and format indicate the serious study the University has given to accommodate the complex placement issues for its over 5,000 freshmen enrolled each year across the New Brunswick undergraduate colleges.

Areas of Concern

The University has apparently failed to meet the Board's mandate for the retesting of all its students who complete remediation.

The overwhelming majority of outcome indicators for both of Rutgers' remedial components indicate that despite some success on the retest and subsequent course pass rate in writing, a serious problem exists in the subsequent fate (GPA's, retention, SSR's) of students who complete remediation. Further inquiry by the University into the causes of the problem is clearly indicated.

A large percentage of the students who were identified for mathematics remediation was present in the fourth semester (39%) without having enrolled in appropriate remediation. This is an outcome of the policy at several Rutgers undergraduate colleges of requiring mathematics remediation only for students electing a major with a math prerequisite.

The reports submitted by Rutgers to the Assessment Committee were in a number of instances unclear, contradictory, and incomplete. Inasmuch as this condition repeats that of the report for the previous cohort (1984) reviewed by the Committee, some attention by the University is clearly warranted here as well.

Suggestions for Further Inquiry

The University's narrative report indicated that the concern noted above regarding the subsequent academic performance of students who have completed remediation is being addressed for some remedial students through the Rutgers Gateway Program. This is a University effort to improve retention by assigning students who are in remediation to special, small sections of typical freshman-level, credit-bearing courses in selected academic departments. It is hoped that Rutgers will investigate the impact of this program on the GPA's of students who have completed remediation, an area of clear weakness in the current data.

APPENDICES

A. REPORTING GUIDELINES

B. STANDARDS FOR EVALUATING REMEDIAL PROGRAM EFFECTIVENESS

C. BACKGROUND PAPER AND CONSULTANT'S REPORT ON GRADUATION CREDITS FOR REMEDIAL/DEVELOPMENTAL COURSES.

APPENDIX A

GUIDELINES FOR PREPARATION OF 1987-89 INSTITUTIONAL REPORT ON REMEDIAL PROGRAM EFFECTIVENESS

(*June 9, 1989; Due date for Institutional Report is August 31, 1989*)

1.0 DEFINITION OF TERMS

For a meaningful interpretation of remedial program effectiveness data, it is necessary that all institutions adhere to the following definitions:

1.1 *Cohort*: The study group should be confined to the "Fall 1987" cohort of students (i.e., all students tested with the NJCBSPT in the Summer or Fall of 1987). The cohort definition is identical to that specified in the *Annual Basic Skills Questionnaire*. It is based on the Department of Higher Education's definitions of the students required to be tested. Transfer students who have not received transfer credit for freshman composition and mathematics are among those students required to be tested. EOF students must be *included* in the cohort, except those for whom the following applies. All ESL/bilingual students, students who have completed (college) ESL/bilingual programs, and learning disabled (LD) students should be *excluded* from the cohort. *Numbers of all excluded students should be given (by category) in the text.*

1.2 *Full-Time/Part-Time:* Based on students' enrollment status in their entering fall semester--i.e., Fall 1987 status as recorded at the end of the institution's drop/add period (usually the tenth day of classes). Once a student's initial full-time or part-time status is defined in this way, it should remain unaltered for purposes of this study, regardless of the student's actual enrollment pattern over the two years.

1.3 *Remedial*: The term *remedial* in these guidelines includes both "remedial" and "developmental" programs designed to help skills-deficient students improve their basic skills in the areas of reading, writing, computation, and elementary algebra.

1.4 *Remedial Areas*: Data should be analyzed and reported separately *for each of the four basic skill areas*, viz., reading, writing,[1] computation, and elementary algebra.[2]

1.5 *Remediation Needed/Not Needed*: Of the students required to be tested, those who fell below the placement criteria, as defined by the college, for a particular skill area should be identified as needing remediation in that skill area. Note, however, that a student who was initially found to need remediation but who subsequently was exempted from the requirement *prior to the start of remediation* (e.g., via a challenge exam administered before or during the drop-add period) should not be included among those identified as needing remediation. If, on the other hand, the student tested out at some point in the semester *after* the drop-add period, in this case the student should be treated as having needed remediation and as having completed it through "other methods" (see below).

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[1] The distinction between the areas of reading and writing may be ignored if the institution treats them as part of a single area of verbal skills.

[2] The distinction between computation and elementary algebra may be ignored if the institution treats them as part of a single area of mathematics skills.

1.6 *Remediation Completed Through Course Work*: Of the students identified as needing remediation in a specific basic skill area, those who enrolled in the appropriate course (or courses, if more than one level of remediation was required) and who received a passing grade in *their* (i.e., the students') final (exit) remedial course. Include here those who performed well enough in a lower-level remedial course to be exempted from other courses in the remedial sequence.

1.7 *Remediation Completed Through Other Methods/Means*: For students identified as needing remediation, completing it through "other" methods or means should be used to designate students who successfully satisfied all remedial requirements but through means other than the normal completion of coursework and awarding of a passing grade (e.g., tested out of a remedial course sequence at some point in the semester beyond the drop-add period but prior to the awarding of a grade, individualized tutoring apart from a formal course).

1.8 *Grade Point Average (GPA)*: Grade point average based on *college-level* (*non remedial*) courses. Include students who have 0.00 GPA in your calculations. If students received incompletes or withdrew from courses, do not include these courses in your GPA data, but do include their information in the credits attempted variable.

1.9 *Successful Survival Rate*: Based on survival rate and grade point average. For the four-semester follow up, the term and cumulative SSR's are as follows: *Term SSR* represents the percentage of the Fall 1987 students who were still enrolled at your institution in the Spring 1989 semester and who attained a *term* GPA of 2.0 or better in the Spring 1989 semester. *Cumulative SSR* represents the percentage of the Fall 1987 students who were still enrolled at your institution in the Spring 1989 semester and who attained a *cumulative* GPA of 2.0 or better at the end of the Spring 1989 semester.

2.0 HISTORY OF PROGRAM

The Assessment Advisory Committee would like to stress the importance of the individual college narrative descriptions in helping to understand the meaning behind the numbers. The information that you provide here (and also in response to Section 3.0 which follows) gives the committee a valuable context for interpreting the numerical data and for resolving discrepancies.

Important to an understanding of a program's effectiveness is a perspective of that program--how did it start, how far has it come, and where is it headed. *Briefly summarize*, in about two pages, major developments in regard to placement policies, remedial instruction, support services, supervision of programs, etc. Describe in a separate section significant changes in the above areas since last year's effectiveness report was written. Include changes *decided* or *planned* for the 1989-90 academic year.

3.0 DESCRIPTION OF PROGRAM

Please respond point by point to the prompts below. Be sure to coordinate your response with the corresponding *Annual Basic Skills Questionnaire* (i.e., for the Fall 1987 entering cohort) that was submitted by your institution. *Any discrepancies between the two reports should be prominently highlighted and explained.*

3.1 *Placement Policies and Procedures*

Describe current placement policies *and also the policies which were in force in 1987.* Indicate clearly when changes took effect. Responses to the following questions would help toward a better understanding of these policies:

a. What rationale and/or data are/were used in setting the placement policies?

b. How are/were students informed of their basic skills test results and any need for remediation?

c. Is/Was placement in remedial courses required or optional in each of the skill areas? If required, how soon must students enroll in remedial courses?

d. What are/were the time limits within which students must complete the college's minimum proficiency requirements?

e. Does/Did the college have a policy which prevents skills-deficient students from enrolling in college-level courses? If yes, describe the policy.

f. How are/were placement policies monitored and enforced?

g. What changes occurred from 1987 to 1988 and from 1988 to 1989?

3.2 *Placement and Exit Criteria*

Describe the placement criteria used in each of the skill areas, *and specifically those used in the fall of 1987.* How are/were the criteria set and how are/were they validated? For example, how does the institution determine that the use of the criteria is resulting in appropriate placement of students in remedial versus college-level courses? If the NJCBSPT Essay is scored locally, have you assessed the comparability of the local scores with scores provided by ETS?

Describe the exit criteria used in each of the four skill areas, and *specifically those used in the fall of 1987.* Are/Were the exit criteria in each of the remedial courses or sequences of courses the same as those used by the college to differentiate remedial versus non-remedial students at the time of original placement? If not, describe the relationship between the two. Also, describe how it is ensured that students passing a remedial course have attained at least the minimum skill proficiency required in that area.

3.3 *Remedial Courses*

Describe the remedial courses in the four skill areas in terms of objectives, topics covered, modes of instruction (e.g., lecture, computer assisted instruction, etc.), out-of-classroom instructional requirements (e.g., tutorials, skills labs, etc.).

Describe the relationship among these courses in terms of sequence, levels, prerequisites, and articulation with regular college-level courses.

3.4 *Staffing of Remedial Courses*

Who teaches remedial/developmental courses in each skill area (e.g., full-time faculty, adjuncts)? Describe whether or not your college provides or requires any special training for those who teach remedial courses.

Describe the procedure which is used to ensure appropriate interaction between remedial and non-remedial faculty on curriculum matters.

3.5 *Support Services*

Describe what and how instructional and non-instructional support services are provided to aid remedial students (e.g., counseling, academic advisement, tutorials, mentors, etc.). Briefly describe any efforts you have made to evaluate these services.

4.0 RESULTS

4.1 *Efficacy of Placement Policies and Remedial Programs*

Institutions may choose to describe the efficacy of their placement policies and remedial programs in a variety of ways, but the description should include, at the minimum, the following data:

For each of the four basic skills areas, supply the following sets of tables:

4.11 *Table A - Testing and Placement of Students*

i. Number of students tested (take from Table 1, total on line #2 of the 1987 *Annual Basic Skills Questionnaire*).

ii. Number and percent of tested students who were identified for remediation *in each basic skill area* (take from Table 2, lines A, B, C & D1 of the *1987 Annual Basic Skills Questionnaire*).

NOTE: Data for *i* and *ii* above should be *identical* to that reported by the college in the 1987 *Annual Basic Skills Questionnaire*. If not, please explain specifically where and why.

iii. NJCBSPT placement testing information (mean and standard deviation) for *(only) students identified as needing remediation in each basic skill area*. Be sure to give *standardized score* data for each of the NJCBSPT subtests, as prompted on Table A.

iv. Number and percent of all students identified (based on numbers in column *ii*) who enrolled in *any* level of remediation in the particular skill area in *any* semester from Summer 1987 to Spring 1989. Each student should be counted ONLY ONCE per skill area (i.e., only for their first registration) IRRESPECTIVE OF PLACEMENT AND ENROLLMENT IN OTHER SKILL AREAS. Do *not* count students for second or subsequent enrollments within a skill area. Do *not* include those students repeating a specific course or enrolling voluntarily.

v. Number and percent of all students identified (based on numbers in column *ii*) who were present in Spring 1989 but had *not* yet enrolled in *any* required remedial course in the particular skill area (do *not* include students who satisfied their remedial requirement through means other than course work).

SEE TABLE A FOR AN ILLUSTRATION OF THIS TABLE.

NOTE: You may *also* wish to identify separately (e.g., via footnotes to Table A) those students who had not enrolled in the required remediation within the specified period because of the sequential nature of linked skill area requirements (e.g., computation-algebra).

4.12 *Table B - Successful Completion of Remedial Requirements*

i. Number of students identified as needing remediation (carry over from column *ii* of Table A).

ii. Number and percent of identified students (based on column *i*) who successfully completed their remedial requirements THROUGH COURSE WORK from Summer 1987 through Spring 1989.

iii. Number and percent of identified students (based on column *i*) who successfully satisfied their remedial requirements THROUGH OTHER MEANS (see definition of terms) from Summer 1987 through Spring 1989.

iv. TOTAL number and percent of identified students (based on column i) who successfully completed/satisfied their remedial requirements from Summer 1987 through Spring 1989 (sum of columns *ii & iii*).

v. Number and percent of identified students (based on column *i*) who were present in Spring 1989 but who had not successfully satisfied all remedial requirements in the skill area by the end of the Spring '89 semester.

SEE TABLE B IN FOR AN ILLUSTRATION OF THIS TABLE.

4.13 *Table C - Follow up of FULL-TIME Students*

Divide ALL TESTED, FULL-TIME STUDENTS IN YOUR FALL, 1987 COHORT into the following three comparison groups *for each basic skill area.* (Refer to definition of *Full-Time/Part-Time* in Definition of Terms.)

a. Students who did not need remediation *in the specific basic skill area.*

b. Students who needed remediation *in the specific basic skill area* and who successfully completed it (through course work or through other means) PRIOR TO THE SPRING 1989 SEMESTER. Note that students who successfully satisfied their remedial requirement in the Spring 1989 semester are NOT to be considered "completers" for purposes of this table.

c. Students who needed remediation *in the specific basic skill area* but who did not successfully complete it PRIOR TO THE SPRING 1989 SEMESTER. Include in this group students who enrolled in their remedial course(s) but did not complete remediation prior to the beginning of Spring 1989, students who did not enroll in the specified remedial course (or did not otherwise satisfy their remedial requirement) prior to Spring 1989, *and* those students who completed their remedial requirement in (or after) the Spring 1989 semester.

Compare the above comparison groups in terms of the following data:

i. Total number of students in each breakout group. *NOTE:* The sum of students in comparison groups *a, b, and c* for each skill area should equal the cohort number of students tested. If this is not the case, please explain.

ii. Number and percent (based on numbers in column *i*) present in Spring 1989.

iii. *Term Data* (for all students enrolled in Spring 1989)

  a. GPA based on *college-level courses* taken in Spring 1989. Provide both mean GPA and percentages of students at or above ($\geq$) 2.00, as of the conclusion of the semester. (Refer to *GPA* in Definition of Terms.)

  b. Mean credits attempted[3] and mean credits earned *for college level courses taken in Spring 1989 only.* List the number of credits attempted and the number of credits earned. *Exclude* credits which are earned without enrolling in college-level courses (e.g., credits earned via credit by exam, transfer credits and any credits given for remedial courses).

  c. Report Successful Survival Rate (SSR) as a percentage of the total number of students (in the particular comparison group) still enrolled in your institution in Spring 1989 *and* that attained a (*term*) *GPA of 2.00 or better* in the

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[3] As recorded at the end of your institution's drop/add period (usually the tenth day of class).

Spring semester. (*Term SSR* is calculated as follows: number of students present with a term GPA greater than/equal to 2.00 *divided by* total number of students for the comparison group *times* 100.) (Refer to *Successful Survival Rate* in Definition of Terms.)

iv. *Cumulative Data* (for all students enrolled in Spring 1989)

a. GPA based on *ALL college-level courses* taken up to and including the Spring 1989. Provide both mean GPA and percentages of students at or above (≥) 2.00. (Refer to GPA in Definition of Terms.)

b. Mean credits attempted[4] and mean credits earned for *ALL college-level courses* taken through Spring 1989.

c. Report Successful Survival Rate (SSR) as a percentage of the total number of students (in the particular comparison group) still enrolled in your institution in Spring 1989 and that attained a *cumulative GPA of 2.00 or better* at the end of Spring 1989. (*Cumulative SSR* is calculated as follows: number of students present with a cumulative GPA greater than/equal to 2.00 *divided by* total number of students for the comparison group *times* 100.) (Refer to *Successful Survival Rate* in Definition of Terms.)

SEE TABLE C IN FOR AN ILLUSTRATION OF THIS TABLE.

4.14 *Table D - Performance of FULL-TIME Students in First College-Level Courses Taken through Spring 1989* (Refer to *Full-Time/Part-Time* in Definition of Terms)

For first college-level (non-remedial) courses (choices for which are enumerated below), report the number enrolled and percent passing *on first try* for all full-time students in the two comparison groups specified below who took these courses in Fall 1987 through Spring 1989. Include (in first attempt) only students who received a standard grade of A, B, C, D or F (e.g., do *not* include withdrawals of any kind). *Passing* here is defined as the institution's academic status which allows a student to advance to the next level without repeating the course. Data should be accumulated over the four-semester period.

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[4] As recorded at the end of your institution's drop/add period (usually the tenth day of class).

Comparison Groups:

a. Students who did not need remediation *in the basic skill area related to the course(s).*

b. Students who needed remediation *in the specific basic skill area* and completed it *prior* to taking the college-level course(s).

Appropriate College-Level Courses for Each Skill Area:

As elaborated below, the institution should select appropriate college-level course(s) per skill area for purposes of this study. The intent is to follow up on as many students as possible. With the exception of writing (for which English Composition is specified as the follow-up course) you should choose a course or courses in which the majority of remedial completers enroll. Try for as large a comparison N as possible. The ideal would be to present data for a single representative course per skill area. However, if achieving sizable N's in this way is not possible, then: (1) select up to (but no more than) *three* appropriate courses to which the highest numbers of remedial completers enroll; (2) provide data on each of the courses separately, using supplemental Table D1; and (3) present the aggregate data on Table D. Note that even though data for more than one course are used, EACH STUDENT SHOULD BE COUNTED ONLY ONCE.

Please also keep in mind the following: Be sure to provide the name of the courses(s) used. A completed Table D1 should be provided *for each skill area in which the Table D comparison is drawn from more than one course;* whereas Table D1 can be ignored in cases where a single representative course is used. Additional guidelines specific to each skill area are given below.

Reading: Choose from among first college-level humanities and social sciences *(reading-intensive)* courses.

Writing: Use first college-level English Composition course.

Computation: Select from among first college-level courses that stress quantitative skills but for which elementary algebra is NOT REQUIRED.

Elementary Algebra: Select from among first college-level quantitative courses for which elementary algebra IS REQUIRED.

SEE TABLES D & D1 IN FOR AN ILLUSTRATION OF THESE TABLES.

4.15 *Table E - Retesting of ALL Students (FULL-TIME AS WELL AS PART-TIME) Who Successfully Satisfied their Remedial Requirements through Course Work*

Refer to the Basic Skills Council's *Guidelines For Basic Skills Retest Administration* for delineation of acceptable retesting practices in keeping with the February 1987 Board of Higher Education mandate. Report aggregate, *accumulated* data on retesting, using Table E and the scaled-score frequency distribution table shells as explained below.

Data should be reported ONLY FOR STUDENTS WHO ARE PART OF THE 1987 COHORT AND WHO SUCCESSFULLY SATISFIED ALL REMEDIAL REQUIREMENTS FOR A PARTICULAR SKILL AREA THROUGH COURSE WORK (I.E., THOSE WHO SUCCESSFULLY COMPLETED ALL REQUIRED REMEDIAL COURSES) BY THE END OF SPRING 1989.

For these students, supply the following data:

i. Total number of students *accumulated over the four-semester period* who successfully satisfied all remedial requirements for the skill area through course work (i.e., sum of part-time and full-time numbers entered in *through course work* columns of Table B).

ii. Total number and percent (based on *i*) of *completing* students who took the retest (i.e., students who completed their course work requirements and who were given the retest). Do not include students who took the retest but who did not successfully complete all required course work by the end of Spring '89. This N should approximate that reported in i; if not, the college should explain.

iii. Name of test (*and subsections*) used for retesting.

iv. Minimum score required on the retest--i.e., the *scaled/standardized* score or algorithm of scores on the NJCBSPT (likely used as part of a set of multiple criteria) which was used to differentiate remedial vs. non-remedial students at the time of original placement. Report the criterion BELOW WHICH students originally were placed into remediation.

v. Retest mean and standard deviation.

vi. Percent of students in *ii* who attained the minimum level on the retest. Specify the percent of students whose retest scores were equal to or more than the score specified in *iv*.

SEE TABLE E IN FOR AN ILLUSTRATION OF THIS TABLE.

5.0 INSTITUTIONAL SELF-ANALYSIS OF DATA ON REMEDIAL PROGRAM EFFECTIVENESS

5.1 *General Instructions*

Please provide in narrative form a self-analysis of the effectiveness of your remedial programs, following the model presented in the Council's latest *Report on the Effectiveness of Remedial Programs in New Jersey Public Colleges and Universities, Fall 1984-Spring 1986* (December 1988; additional copies available upon request). The intent of this section is to give each institution the opportunity to contribute their own critical insights to the writing of the program effectiveness profile. *We welcome, in addition, statements that can help us to view your data within an appropriate institutional context.*

Respond in accordance with the format outlined below *for each remedial area* and highlight trends in your data over time.

5.2 *Background to Guide Institutional Self-Analysis of Data*

5.21 *Outcomes Indicators*

The Basic Skills Council's strategy is to gather data on multiple indicators which relate to relevant aspects of a successful program, and then to perform an integrative analysis of results (i.e., search for patterns) across the indicators.

The principal indicators used to ascertain remedial program effectiveness are divided for convenience into four discrete sets: *policy administration, placement criteria, remedial program outcomes, and subsequent academic performance outcomes.* Each of these sets of indicators and the general methodology are described in the Council's latest *Effectiveness Report* (cited above).

Your self analysis should address each of the sets of indicators, indicator by indicator and also in an overview fashion.

5.22 *Provisional Standards for Evaluating Remedial Program Effectiveness*

The Council's latest *Effectiveness Report* employs provisional standards devised by the Assessment Advisory Committee. These standards were put forth as reasonable starting points after considerable discussion; and the Council believes that they are not much different from the performance goals any institution might set for itself. On March 17, 1989, the Board of Higher Education adopted these standards "as provisional" for the 1989-90 academic year..." The definitive standards are attached (see Appendix B).

As the basis for framing at least a portion of your response, we ask that you comment on your institution's 1987-89 results in light of the applicable provisional standards. Please proceed point by point (i.e., indicator by indicator), following prompts given in Appendix B.

6.0 CALL FOR REACTIONS TO PROVISIONAL STANDARDS.

In its latest *Effectiveness Report*, the Council "invites the colleges both to contribute more fully to definitions of program performance standards and to interpret more productively the significance of their own program statistics." The Council and the Department jointly are seeking input from the colleges as an aid in refining the provisional standards. A refined set of standards will be presented to the Board for permanent adoption in the 1989-90 academic year.

Calls for comment on the provisional standards, both as criteria for review and as stated goals for remedial programs to meet, have already been directed to your president and to others at your institution. Nonetheless, the Council and its Assessment Advisory Committee would like to hear from as many colleagues as possible.

We invite you to forward whatever comments or suggestions you (and any other interested parties) may have concerning the provisional standards specifically and remedial program assessment generally.

Name of Institution: ______________________________

TABLE A

Testing and Placement of Students
From Summer 1987 Through Spring 1989
Fall 1987 Cohort

BASIC SKILL AREA	i. Tested*		ii. Identified for* Remediation				iii. NJCBSPT Placement Test[2]				iv. All Students Enrolled in Any Semester From Summer '87 to Spring '89				v. Present in Spring '89 But Had Not Yet Enrolled In Remedial Course[4]			
							Mean		Standard Deviation									
	FT #	PT #	Full-Time #	%[1]	Part-Time #	%[1]	FT	PT	FT	PT	Full-Time #	%[3]	Part-Time #	%[3]	Full-Time #	%[3]	Part-Time #	%[3]
READING							RC:											
WRITING							SS: ECS:											
COMPUTATION							MC:											
ELEMENTARY ALGEBRA							EA:											

*See definition of cohort, p. 1. ESL & LD students should be EXCLUDED from the cohort.

[1] Percentages based on numbers of students TESTED (column i).

[2] SCALED SCORE results on the named subtests for students IDENTIFIED FOR REMEDIATION in each skill area. RC, Reading Comprehension; SS, Sentence Sense; ECS, ETS-Centrally Scored Essay (DO NOT report data based on local scores); MC, Mathematics Computation; EA, Elementary Algebra.

[3] Percentages based on numbers of students IDENTIFIED FOR REMEDIATION (column ii).

[4] Do not include students who satisfied their remedial requirement through means other than course work.

Name of Institition: ______________________

TABLE B

SUCCESSFUL COMPLETION OF REMEDIAL REQUIREMENTS IN EACH SKILL AREA

Summer 1987 Through Spring 1989

BASIC SKILL AREA	i. Students Identified As Needing Remediation (From Column ii of Table A)		Students Who Successfully Satisfied All Remedial Requirements In The Skill Area, Summer 1987 Through Spring 1989												v. Students Present in Spring '89 Who Did Not Successfully Satisfy All Requirements By End of Spring '89			
			ii. Through Course Work				iii. Through Other Means				iv. Total[2]							
	FT	PT	FT		PT		FT		PT		FT		PT		FT		PT	
	#	#	#	%[1]	#	%[1]	#	%[1]	#	%[1]	#	%[1]	#	%[1]	#	%[1]	#	%[1]
READING																		
WRITING																		
COMPUTATION																		
ELEMENTARY ALGEBRA																		

[1] Percent based on numbers of students identified (Column i).

[2] Sum of Columns ii and iii.

Name of Institution: ____________________

TABLE C

FOLLOW UP OF FULL-TIME STUDENTS
FALL 1987 COHORT

STUDY GROUPS[1]	i.	ii.		iii. TERM DATA FOR SPRING '89					iv. CUMULATIVE DATA AT END OF SPRING '89				
	Total Number	Present Spring '89 #	%[2]	GPA[3] Mean	% ≥ 2.00	Mean Credits Attempted[4]	Mean Credits Earned	Successful Survival Rate[3]	GPA[3] Mean	% ≥ 2.00	Mean Credits Attempted[4]	Mean Credits Earned	Successful Survival Rate[3]
READING													
A. Required no remediation in READING.													
B. Needed remediation in READING and completed it.													
C. Needed remediation in READING but did not complete it.													
WRITING													
A. Required no remediation in WRITING.													
B. Needed remediation in WRITING and completed it.													
C. Needed remediation in WRITING but did not complete it.													
COMPUTATION													
A. Required no remediation in COMPUTATION.													
B. Needed remediation in COMPUTATION and completed it.													
C. Needed remediation in COMPUTATION but did not complete it.													
ELEMENTARY ALGEBRA													
A. Required no remediation in ALGEBRA.													
B. Needed remediation in ALGEBRA and completed it.													
C. Needed remediation in ALGEBRA but did not complete it.													

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[1] Refer to Section 4.13 of the Guidelines (definition of STUDY GROUPS). Completion of remediation (study groups B & C) here reflects status PRIOR TO Spring 1989 semester.

[2] Percent based on numbers for each breakout group reported in column i.

[3] Refer to Definition of Terms (Section 1.0 of Guidelines) for detailed description.

[4] As recorded at the end of your institution's drop/add period (usually the tenth day of class).

Name of Institution: ____________________

TABLE D

Performance of Full-Time Students in First College-Level Courses Taken Through Spring 1989
(FALL 1987 COHORT)

READING

SPECIFY FIRST COLLEGE-LEVEL COURSE(S): ____________________

	No. Enrolled	% Pass
A. Required no remediation in READING.		
B. Needed remediation in READING and completed it.		

WRITING

	First College-Level ENGLISH COMPOSITION Course Taken	
	No. Enrolled	% Pass
A. Required no remediation in WRITING.		
B. Needed remediation in WRITING and completed it.		

COMPUTATION

SPECIFY FIRST COLLEGE-LEVEL COURSE(S): ____________________

	No. Enrolled	% Pass
A. Required no remediation in COMPUTATION.		
B. Needed remediation in COMPUTATION and completed it.		

ELEMENTARY ALGEBRA

SPECIFY FIRST COLLEGE-LEVEL COURSE(S): ____________________

	No. Enrolled	% Pass
A. Required no remediation in ALGEBRA.		
B. Needed remediation in ALGEBRA and completed it.		

Name of Institution: ____________________

TABLE D1
(SUPPLEMENT TO TABLE D*)

Performance of Full-Time Students in First College-Level Courses Taken Through Spring 1989

Description of Aggregate

SKILL AREA: ____________________

	COURSE #1:		COURSE #2:		COURSE #3:		Aggregate Totals[1]	
SPECIFY NAME OF EACH FIRST COLLEGE-LEVEL COURSE:	No. Enrolled[2]	% Pass	No. Enrolled[2]	% Pass	No. Enrolled[2]	% Pass	Total No. Enrolled[2]	% Pass
A. Required no remediation in the skill area.								
B. Needed remediation in the skill area and completed it.								

*A completed Table D1 should be provided FOR EACH SKILL AREA IN WHICH THE TABLE D COMPARISON IS DRAWN FROM MORE THAN ONE COURSE; Table D1 can be ignored in cases where a single representative course is used.

[1] Carry over from Table D.

[2] Each student who enrolled in more than one of these courses must be counted only once.

Name of Institution: ______________________

TABLE E

AGGREGATE RE-TEST RESULTS FOR STUDENTS WHO SUCCESSFULLY SATISFIED ALL REMEDIAL REQUIREMENTS THROUGH COURSE WORK

FALL 1987 COHORT ONLY
ACCUMULATED DATA FOR SUMMER 1987 THROUGH SPRING 1989
FULL-TIME & PART-TIME STUDENTS COMBINED

SKILL AREA	i. Total No. Completed Via Course Work[1]	ii.		iii.		iv. Minimum Score Required on the Re-Test[4]	v. Re-Test		vi. Percent Students Attaining Minimum Level on Re-Test[5]
		N[2]	(%)[3]	Name of Re-Test(s) Administered	Section(s) of Test Administered		Mean	Standard Deviation	
READING			( )						
WRITING			( )						
COMPUTATION			( )						
ELEMENTARY ALGEBRA			( )						

---

[1] Sum of FT and PT numbers entered in "through course work" columns of Table B.
[2] Number of successful completers via course work who took the re-test.
[3] Percent based on total number of successful completers via course work (column i).
[4] The scaled/standardized score or algorithm of scores on the NJCBSPT (likely used as part of a set of multiple criteria) which was used to differentiate remedial vs. non-remedial students at time of original placement. Report the criterion BELOW WHICH students originally were placed into remediation.
[5] Percent of students (based on the N reported in column ii) whose re-test scores were equal to or more than the minimum score specified in column iv.

APPENDIX B

STANDARDS FOR EVALUATING REMEDIAL PROGRAM EFFECTIVENESS AT NEW JERSEY PUBLIC COLLEGES AND UNIVERSITIES

New Jersey College Basic Skills Council

April 1990

STANDARDS FOR EVALUATING REMEDIAL PROGRAM EFFECTIVENESS AT NEW JERSEY PUBLIC COLLEGES AND UNIVERSITIES

Assessment Advisory Committee, New Jersey Basic Skills Council

SUMMARY

Indicator	Standard
Administrative:	
Percent students tested	at least 90%
Percent students enrolled in remediation within two semesters	at least 90%
Percent students present in fourth semester who had not yet begun remediation	no more than 5%
Percent students retested	at least 95%
NJCBSPT Placement Criteria:	
Reading Comprehension	161
Sentence Sense	161
Essay	7
Composition	163
Total English	161
Math Computation	165
Elementary Algebra	167
Outcome Indicators:	
Percent students attaining the minimum retest level	at least 90%
Passing rates for first (subsequent) college-level course in skill area	no more than 5 points difference*
Percent(s) students attaining a GPA at or above 2.0	no more than 15 points difference*
Retention rates	0 points difference*
Successful survival rates	no more than 7 points difference*

**Expressed as the expected difference in percentage points of remediated group's performance below that of the non-remedial comparison group.*

STANDARDS FOR EVALUATING REMEDIAL PROGRAM EFFECTIVENESS AT NEW JERSEY PUBLIC COLLEGES AND UNIVERSITIES

Assessment Advisory Committee, New Jersey Basic Skills Council
April 1990

The Basic Skills Council evaluates the effectiveness of the remedial programs at New Jersey public institutions of higher education. An annual report on remedial program effectiveness, which includes both a set of tabular data and descriptive text, is required of each college. Data are reviewed by skill area on the testing, identification and enrollment of skills-deficient students in remedial courses within one academic year, and on the students' performance over four semesters. In addition, colleges are asked to perform a "self-analysis" of student performance.

Because no single measure could provide sufficient information on the effectiveness of remedial programs, the Council has identified multiple outcome measures which relate to aspects of a successful program. If multiple measures for a given program form a consistent pattern, then adequate conclusions on the effectiveness of remediation at that institution can be drawn.

Expectations for a pattern of student outcomes marking a successful program are given below in the form of standards on key numeric indicators. These standards are the product of lengthy discussions with the state's higher education community.

Policy Administration

Percent students tested (of those required to be tested). Full-time (FT) & Part-time (PT): **at least 90%.**

The Board of Higher Education requires that the following students take the New Jersey College Basic Skills Placement Test (NJCBSPT): full-time and part-time freshmen entering New Jersey public colleges; students who have not already taken the test but who register for a course that would result in the accumulation of 12 or more credits; and transfer students who have not received transfer credit for freshman composition and mathematics. An institution may require additional categories of students to be tested.

The NJCBSPT is administered to students after they are admitted to college but before they register for courses. Colleges use the test scores for placement purposes, not for admissions decisions. Students enrolled in a bilingual or English as a Second Language (ESL) program should not be tested until they have completed such a program.

Percent students enrolled in remediation within two semesters (of those identified for remediation, FT only): **at least 90%.**

To serve students well, colleges must ensure that those who are identified as needing remediation enroll promptly in appropriate courses. This two-semester enrollment standard has been the Board's policy since 1983. For algebra, the standard applies only to those who were not required to complete remedial courses in computation prior to enrolling in elementary algebra.

Percent students present in fourth semester who had not yet begun remediation (of those identified for remediation, FT only): **no more than 5%.**

For algebra, the standard applies only to those who were not required to complete remedial courses in computation prior to enrolling in elementary algebra.

Percent students retested upon successful completion of remediation (of those required to be retested, FT & PT combined): **at least 95%.**

The Board requires that colleges re-administer the NJCBSPT (or an equated substitute test approved by the Basic Skills Council) to all students as they move from remedial to regular courses in the skill area. These "retest" results (see below) provide one of many indicators of program effectiveness.

Placement Criteria

NJCBSPT scaled scores below which students were placed into remediation (among the multiple criteria used to ascertain skills preparedness): **Reading Comprehension, 161; Sentence Sense, 161; Essay, 7; Composition, 163; Total English, 161; Math Computation, 165; Elementary Algebra, 167.**

The colleges identify students in need of remediation in each skill area. Cut-scores on the NJCBSPT and the mix of criteria that can be used in these decisions are not dictated by Board policy. Each of the above scaled scores corresponds to (or approximates) the "lack proficiency" boundary established by the Council. These cut-scores represent minimal (i.e, not necessarily optimal) criteria. No institution should set placement criteria below these "floor" levels.

Outcome Indicators

Remedial Program Outcomes

Percent students attaining the minimum level on the retest (or falling within one standard error of measurement of it, of those who successfully satisfied their remedial requirements through course work, FT & PT combined): **at least 90%.**

Recognizing the problems inherent in interpreting pre- and post-test data, the Assessment Committee has de-emphasized the use of "gain" scores. Instead, the focus has been on the percentage of students completing remediation who attain the minimum level on the NJCBSPT which was used among other criteria to differentiate remedial vs. non-remedial students at the time of the original placement testing. Thus, the central question being asked is the same as that asked during the original placement testing: do the students have the skills to succeed in college-level courses? Since it makes more sense to think of these data as the aggregate results of a second sitting of a placement test, the Council prefers the term "retesting."

Retest results may be used as a factor in deciding final grades, but the NJCBSPT was not designed and should not be used as a "gatekeeper" exam. The Basic Skills Council urges the use of all available information in determining final grades and readiness for college-level instruction.

Subsequent Academic Performance Outcomes

The Assessment Committee's approach to the evaluation of follow-up academic performance uses multiple measures to compare each of three full-time student groups within the colleges: students who needed and completed remediation, students who did not need remediation, and students who did not complete their prescribed remediation. The standards below stress comparisons between the first two groups of students. These standards are "relative" in that they gauge the performance of a college's remedial program relative to the college's own internal bench mark: namely, its non-remedial student outcomes.

Passing rates for first (subsequent) college-level course in skill area (expected difference in percentage points of remediated group's performance below that of the non-remedial comparison group, FT only): **no more than 5 percentage points**.

Percentages of students attaining a cumulative grade-point average (GPA) at or above 2.0 in the fourth semester (expected difference in percentage points of remediated group's performance below that of the nonremedial comparison group, FT only): **no more than 15 percentage points**.

Use of passing rates and GPA as measures of performance rests on the expectation that students who have completed needed remediation should be able to earn satisfactory grades in college-level courses taken subsequent to remediation. A GPA of 2.0 (the equivalent of a "C" average) is generally the minimum average required for graduation from college.

Retention rates in the fourth semester (expected difference in percentage points of remediated group's performance below that of the nonremedial comparison group, FT only): **zero percentage points**.

Retention rates must always be interpreted in light of the mission of the institution as well as in light of the objectives of the students. Students leave or do not leave an institution for many reasons, confounding interpretation of this indicator. Nonetheless, certainly without remedial programs relatively few skills-deficient students would persist in college.

Successful survival rates (expected difference in percentage points of remediated group's performance below that of the nonremedial comparison group, FT only): **no more than 7 percentage points**.

The successful survival rate (SSR) is a composite measure that combines the GPA and retention variables. The SSR for a four-semester cohort can be illustrated as follows: if 100 freshmen were enrolled in the fall and 80 remained four semesters later; and of those 80, 65 had a cumulative GPA at or above 2.0; then the SSR would be 65/100 or 65 percent. Note that the SSR is lower than the retention rate because it asks the question: "How many students, as a percentage of the original cohort, both remained *and* had a "C" or better GPA?

APPENDIX C

GRADUATION CREDIT FOR REMEDIAL/DEVELOPMENTAL COURSES: BACKGROUND

Chancellor Hollander's memorandum to the Board of Higher Education (October 18, 1985) accompanying the report on the Character of Remedial Programs, Fall 1984 noted that the number of colleges granting graduation credit for remedial courses had dropped from fourteen in 1980 to six in 1984. Although pleased by the reduction, the Board noted that the practice nevertheless would seem to violate a BHE resolution passed on March 16, 1984, requiring that colleges clearly designate remedial/ developmental courses and that they not grant graduation credit for those courses. (The information regarding the practice of awarding graduation credit for remedial courses is self-reported; the colleges themselves have identified the courses in question as remedial/ developmental.) The Chancellor indicated at that time that he would request documentation from the presidents of those six colleges supporting their current policy on this matter.

Subsequently Chancellor Hollander wrote to the six presidents requesting the rationale for their policy of awarding graduation credit for remedial/developmental courses as well as relevant course syllabi. He announced that he would appoint a committee to review the material submitted and that "if the college-level components of these remedial/developmental courses can be substantiated, the college will be permitted to continue its current practice."

In response, three of the six colleges reported that they had already changed, or planned to change, their policy and would not henceforth be awarding graduation credit for remedial/developmental courses. The other three, Montclair State College, Rutgers (NCAS), and Stockton State College, responded explaining the reasons for their policies with supporting documentation.

Chancellor Hollander appointed three consultants with special expertise in remedial/developmental education and in educational assessment to review the material submitted by the three colleges and to make recommendations as to whether the colleges were in compliance with the intent of the 1984 BHE resolution. The consultants were:

Dr. Marie Jean Lederman, on leave as Professor of English at Baruch College to serve as Dean for Freshman Skills at LaGuardia Community College, Co-director of the National Testing Network in Writing and of the College Assessment Program Evaluation Project;

Dr. Robert E. Lynch, Professor of English at the New Jersey Institute of Technology, a member of the Task Force on Pre-College Preparation and of the New Jersey Basic Skills Council;

Dr. Milton Spann, Professor of Leadership and Higher Education at Appalachian State University, Director of the National Center for Developmental Education, and editor of the JOURNAL OF DEVELOPMENTAL EDUCATION

The consultants met on May 29th and 30th at the Chauncey Conference Center to review the material submitted by the three colleges. They were assisted by Anthony Lutkus, Director of Basic Skills Assessment in New Jersey; Lucinda Jessel, 1985-86 Faculty Fellow at the Department of Higher Education; and Dennis Levy, Program Officer for Basic Skills Assessment. The consultants' report follows.

TO: T. EDWARD HOLLANDER,
CHANCELLOR OF HIGHER EDUCATION,
STATE OF NEW JERSEY

FROM: MARIE JEAN LEDERMAN, ROBERT E. LYNCH, MILTON SPANN,
SPECIAL CONSULTANTS ON GRADUATION CREDIT FOR
REMEDIAL/DEVELOPMENTAL COURSES

DATE: JUNE 6, 1986

SUBJECT: CONSULTANTS' REPORT

We have met, reviewed and discussed the material submitted by Montclair State College, Rutgers University (Newark), and Stockton State College, the three colleges which continue to grant graduation credit for courses they designate remedial/developmental. Our task was to evaluate the arguments advanced for such policies and to make recommendations based on those evaluations.

We will first summarize our findings and then explain our rationale in each case.

SUMMARY

Montclair State College awards three graduation credits for M 1501 100 (Basic Composition). This course, in our judgment, should not carry graduation credit.

Rutgers University, Newark Campus awards up to six graduation credits in Academic Foundations (003) courses. The content of 142, 143, and 144 (Communications Skills II & III) and the content of 162 (Developmental Mathematics II) justify the two graduation credits each of those courses carries; however, 131-132 (Intermediate ESL), 133-134 (Advanced ESL), and 160 (Developmental Mathematics I), in our judgment, should not carry graduation credit.

Stockton State College awards four graduation credits for BASK 1101, 1102, and 1103. The content of BASK 1101 (College Writing) and BASK 1102 (Critical Thinking) justifies the graduation credits each of those courses carries; however, BASK 1103 (Quantitative Reasoning), in our judgment, should not carry graduation credit.

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RATIONALE

Montclair State College

In his response to Chancellor Hollander's letter, President Walters explained that MSC requires 128 credits for a baccalaureate degree, eight more than the minimum required by the state. There was no further documentation submitted regarding the nature and content of the writing course (M1501 100: Basic Composition), nothing to indicate that its content included college-level material. We therefore formed our judgment on the description of the course in the MSC catalog and on data submitted by MSC to the state's Basic Skills Council.

The catalog description indicates that students are placed in the course based on their scores on the New Jersey College Basic Skills Placement Test (NJCBSPT), that the course presents "instruction in basic writing skills and research," and that class meetings and tutorial sessions are designed "to raise students' skills to college standards." Students who complete the course successfully are permitted to enroll in M 1501 105: Freshman Composition.

MSC reports that it uses an NJCBSPT Total English score of 160 as its dividing line between placement in the remedial and regular composition courses. This cut-off score is among the lowest in New Jersey, with the result that less than 10% of MSC freshmen are placed in Basic Composition. Since the pattern of English scores on NJCBSPT for MSC freshmen does not differ greatly from those of the state college sector generally, we are struck by what appears to be under-identification of students in need of remedial writing. MSC further reports that students who are placed in that course have a lower rate of retention than those placed in MSC's other remedial courses.

Based on these considerations, we conclude that the content of Basic Composition is indeed pre-college level and the course should not carry graduation credit.

The argument that MSC students are required to earn 128 credits for their degrees, eight more than the state-mandated minimum, does not, of course, address the issue of the course's purpose or content. It seems to us, however, that whatever total number of credits MSC requires should be college-level and that this requirement should call for the same number of college-level credits for all students. A student placed in remedial writing should not graduate with fewer college-level courses than one placed in regular freshman composition. This principle is respected in MSC's other remedial programs: there is no indication of graduation credit for courses in remedial reading, and the catalog specifically states that the two remedial Mathematics courses (Y 1701 050-051: Developmental Math I & II) do not carry graduation credit.

In recommending against graduation credit for Basic Composition, therefore, we are suggesting that, in its remedial writing program, MSC follow the same guidelines as in its remedial mathematics program, which, judging from MSC's own data, seems to be more successful.

Rutgers University (Newark)

In his April 21, 1986, response to Chancellor Hollander's letter, Rutgers' Vice President for Academic Affairs, Nathaniel Pallone, defended the Newark campus' policy of awarding some graduation credit for Academic Foundations courses. He stressed the fact that two graduation credits are awarded for courses that require six contact hours, reflecting that portion of the course which is at the college level. He stressed the value of the credits as an incentive to remedial students and attached detailed course material for some of the courses in question.

After studying the material submitted regarding Communication Skills 142 and 143, we were convinced of the validity of that argument. The level of reading and writing required of students beyond basic skills instruction warrants the awarding of partial credit towards their degrees. Although we were not sent a detailed description of the third course in the sequence, Communication Skills 144, we felt it reasonable to assume that it too included sufficient college-level material to warrant partial credit.

With regard to the Academic Foundations sequence of ESL courses, however, there were no syllabi or outlines submitted. Although reference was made to the ESL courses being "parallel" to the Communications Skills courses, the college-level material cited for 142 & 143 seems well beyond the ability of students placed in the ESL sequence. Course descriptions of the ESL sequence in the catalog (003: 131-134) stress command of basic grammatical and organizational principles, reinforcing our conclusion that these courses do not seem to warrant graduation credit.

Dr. Pallone submitted detailed descriptions of the two courses in Developmental Mathematics offered by Academic Foundations. Our review found the first course, Developmental Mathematics I (003:160), to be pre-college level, consistent with the catalog description which describes the course as stressing "facility with computation and elementary algebraic techniques." This course, therefore, does not seem to warrant graduation credit.

The second course in the sequence, Developmental Mathematics II (003:161), on the other hand, contains modules requiring more advanced algebra and elements of analytical geometry. This material justifies Rutgers' practice of awarding two graduation credits for the course.

Stockton State College

President Vera King Farris presented a detailed rationale for Stockton's policy of awarding four graduation credits for each of its three courses in Basic Studies: BASK 1101 (College Writing), BASK 1102 (Critical Thinking), and BASK 1103 (Quantitative Reasoning). Dr. Farris emphasized the college-level material taught in BASK courses, adding that class work is supplemented by non-credit tutorials in the college Skills Center. She also noted that the college is likely to extend the material of the BASK courses to the freshman class generally with a corresponding change of nomenclature. "With that work completed in the next two years," she concluded, "there should be no question about Stockton's compliance with the intent of the DHE resolution."

Our review of the extensive course material submitted for BASK 1101 and 1102 leads us to support the argument for their being credit-bearing courses. We endorse the movement toward broadening student participation in these courses and removing the Basic Skills designation they now carry. We also encourage the effort toward providing ongoing support for students in these courses through instruction in basic skills within a Skills Center and tutorial context. We would advise close control and supervision of peer tutors by Stockton faculty as well as careful evaluation of the effectiveness of this approach. The skills program, as Dr. Farris indicated, would not earn students graduation credit.

BASK 1103 (Quantitative Reasoning), however, does not seem to us an appropriate course for graduation credit. Dr. Farris's letter seems equivocal as to the course content, as she notes that "some sections are clearly college-level," while others "concentrate on remediating arithmetic and algebraic deficiencies." She goes on to list a number of initiatives being planned for remedial/developmental mathematics.

We would encourage SSC to proceed with such changes. The course material submitted for BASK 1103 does not make a strong case for college-level content. The course description does include a unit on Statistics which could qualify the course for partial graduation credit, but the major emphasis is clearly on pre-college mathematics. We would also suggest that Stockton devise a post-test commensurate with the content of the course.

While reviewing the content of BASK 1103 and noting the absence of algebra, we noticed the inclusion in the General Studies division of GEN 1124 (Basic Algebra and Geometry), a course described in the catalog as "a review of the essentials of high school mathematics," but which nevertheless awards students four credits toward their college degrees. We suggest that in its review of the remedial/developmental mathematics program, Stockton consider revising the content, or the credit-bearing nature, of this course as well.

Like Montclair State, Stockton requires 128 credits for its baccalaureate degree, eight more than the state-mandated minimum. As we said with regard to Montclair, this requirement does not seem a sufficient reason for awarding graduation credit for courses whose content is below college-level.

ERRATA

Page 8 Warren County Community College Commission was to be included in the list of colleges on this page that displayed weak patterns of performance in policy administration.

ADDITIONAL NJCBSPT PUBLICATIONS AND RELATED REPORTS*

Report to the New Jersey Board of Higher Education on the Results of the New Jersey College Basic Skills Placement Testing, Fall 1990.

Information Bulletin 1991.

Interpreting Scores on the New Jersey College Basic Skills Placement Test.

Interpreting Mathematics Scores on the New Jersey College Basic Skills Placement Test.

Scoring the Essays.

Research Monographs:

> **Cycle-to-Cycle Consistency of the Scoring of NJCBSPT Essays.** Educational Testing Service, 1986.
>
> **The Effects of Time Limits on the Quality of NJCBSPT Essays.** Educational Testing Service, 1987.

Teaching Reading & Writing. New Jersey Basic Skills Council, 1984.

Thinking Skills: An Overview. New Jersey Basic Skills Council, 1986.

Publications and reports are available from the Basic Skills Assessment Program, New Jersey Department of Higher Education, 20 West State Street, CN 542, Trenton, NJ 08625, (609) 292-8881.